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## Original Articles.

### OUTLINES OF URETHROSCOPIC DIAGNOSIS WITH SPECIAL REFERENCE TO CHRONIC GONORRHEA.*

DEMONSTRATION OF A SIMPLIFIED URETHROSCOPE.


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Our time is certainly one of giant strides toward exactitude in the diagnosis of disease. No plea, therefore, seems necessary, for the visual exploration of organs as a basis for treatment. What, indeed, would be thought of the eye specialist who has no ophthalmoscope? Who would attempt to treat the throat without a laryngoscope? Light is now carried even into the stomach, and illumination of the bladder is no longer a novelty. Nevertheless, many still appear to consider the urethra the stepchild of the organism. This is due it seems, to the instruments that have been thus far advocated for throwing light into the dark channel. They have failed to become generally used, either because their illumination was defective, or because of their complicated character. The consequence is that the treatment of chronic gonorrhea continues to be to some the most unhappy guesswork. To others it is a hopeless task, undertaken with misgivings and discarded in desperation. What wonder then that the quacks make this their favored field, to begin with promises, to end with the limit of the patient's purse. The immense number of men whose lives are rendered miserable and abbreviated by chronic gonorrhea, the large number of innocent women and children whose existences are wrecked in consequence of the same disease, make all efforts directed to its cure worthy of most serious consideration.

The chief essential in chronic gonorrhea is, manifestly, as in other diseases, to ascertain its cause. An instrument is necessary to show the practitioner where the disease lies, and what is its character. The instrument to effectually do its work must be simple in construction, easy to use, not prone to get out of order, and always reliable.

If the view of those who honor me by calling me their fellow-specialist is a guide, all these ends are attained by this urethroscope, which I had the privilege of publicly demonstrating for the first time before our genito-urinary section of the New York Academy of Medicine, March 14, 1899.

This instrument, made for me by the Electro Surgical Instrument Co., Rochester, consists of urethroscopic tubes running from Nos. 24 to 32 F. In general appearance they differ little from the Nitze-Oberlaender tubes with burnished ends as modified by Kollman. This modification permits urethral examination from before backward as well as from behind forward. The disc at the visual end is, however, larger, to safely hold the spur, and for easy and firm attachment of the light-carrier and the megaloscope.

Each tube is provided with its obturator, stamped on the handle with a number to correspond with the tube to which it belongs. The distal end closes the urethral tube, to permit its easy introduction and has a deep slit, corresponding with a similar slit in the handle. These slits permit air to easily enter the tube, facilitating the removal of the obturator and preventing any suction on the urethral mucosa.

The light-carrier is a delicate but very firm strip, containing the insulated wires that illuminate the lamp, which is enclosed in a glass capsule. By this means bright light is brought into almost immediate contact with the spots to be examined, be they ever so small. At its proximal end the light carrier is bent downward a trifle more than at a right angle, enabling it to be easily and readily attached to the tube, by its engaging frictionally under a small flange situated at the base of the spur on the disc. From the bend thereof the insulated connections for the battery wires project; they are so curved that they do not encroach on the visual orifice of the urethral tube.

In general appearance the light-carrier resembles the one used in the Nitze-Oberlaender urethroscope. It differs essentially in that the lamp gives no appreciable heat, and consequently requires none of the cumbersome water-cooling arrangement. Furthermore, the lamp being permanently fixed at its end, it is not exposed to twisting and short-circuiting, as happens almost continually with what was the best instrument for direct urethral illumination. This lamp is not likely to burn out, unless the most gross carelessness is employed. Moreover, the light being enclosed in glass permits the operator to leave the lamp in place while swabbing secretions from the urethra, performing cauterizations, slitting infiltrated glands, electrolyzing, finding the opening of devious strictures and throughout the course of every other diagnostic and remedial procedure.

The megaloscope consists of a series of lenses in short telescoping tubes attachable by an auxiliary tube on its side to the spur on the disc. By means of the megaloscope, whose focus is easily changed, the view of every part of the urethra can be magnified sixteen diameters. The interspace between the visual orifice of the tube and the objective end of the megaloscope suffices to allow the introduction of instruments for operative procedures within the urethra.

The battery and instruments are all in a leather case of 10½x7½x5 inches, the whole weighing about

*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

ten pounds. The outfit is easily transportable and inexpensive. The manufacturers guarantee the battery to furnish light for at least thirty hours. Therefore, even if ten minutes be devoted to each urethroscopy, the cost would be trifling, as the renewal of batteries is inexpensive.

### THE TECHNIC OF URETHROSCOPY.

*Anterior Urethroscopy.*—1. Have the patient lie on the table or sit on a chair. The former is preferable when remedial measures are to be employed. When placed on a chair, the patient should sit as far forward as possible, on its front edge, its back supporting his shoulders and his legs wide apart.

2. Cleanse the foreskin, glans and meatus thoroughly with absorbent cotton, soaked in bichlorid 1 to 6000.

3. Select the urethroscopic tube that will readily pass the meatus. Those experienced in urethroscopy will have no difficulty in doing this. The novice will do well to employ a Piffard meatometer, which often reveals that a meatus which appears to be very tight is rapidly and painlessly extensible, so that it will offer no resistance to a very large tube. On the other hand, it will often show that quite a large meatus is no guide to a very tight posterior boundary of the fossa navicularis. In the latter case, a much smaller tube must be used, or preliminary deep meatotomy performed.

4. After cleansing the tube and obturator, pass each one separately through the flame of an alcohol lamp or Bunsen burner. This done, insert the obturator into the tube and pour glycerin on them until the tube and especially the projecting tip of the obturator, are thoroughly lubricated.

5. Take the penis in the left hand as for anterior irrigation[1].

6. Insert the tube gently without any gyrating motions, until it is arrested by the compressor urethræ muscle, or the anterior layer of the triangular ligament. If it does not readily proceed so far, stricture or some other abnormality obstructs its progress. Then a smaller tube must be used. Only exceptionally is there any practical value in employing a tube smaller than 24 F., save in the hands of urethroscopic experts. On the other hand, a tube so large as to give pain or produce excessive bleeding, thwarts the purposes of urethroscopy.

7. Turn the obturator slightly, without drawing it outward. As soon as it is felt to lie loosely within the tube, from the ingression of air, it may be removed.

8. Dry the urethra of excessive secretions by gently mopping it, through the tube, by means of applicators wrapped with absorbent cotton. Uncut match-sticks are desirable for this purpose.

9. Insert the light-carrier, and fasten it under the flange at the base of the disc.

10. Attach the megaloscope, when required.

11. Draw the tube slowly out of the urethra. As this is being done, all its parts fall into view. When a spot in the urethra requiring special investigation or treatment is met, bend the penis over the tip of the tube in the direction opposite the side at which the point to be examined appears. This stretches the mucosa at such a point for better examination or treatment. The fourth or fifth finger of the left hand, holding the penis, can push the urethra still farther into view.

12. To insure against infection, it is well to irrigate the anterior urethra after a urethroscopy, as after any other instrumentation.

*Posterior Urethroscopy.*—1. Place the patient in the position for perineal section.

2. Perform the steps indicated above (1 to 6). When the tip has reached the compressor, make gentle pressure against it, at the same time depress the tube between the thighs. Then, just at the beginning of the interval between expiration and inspiration, gently thrust the tube inward and slightly upward. Usually the grasp of the compressor is felt on the tube for an instant; immediately thereafter it can be easily drawn forward and backward. This should not be done brusquely, lest the tip injure the very sensitive posterior urethra.

3. Withdraw the obturator. This is followed by some urine.

4. Dry the posterior urethra as much as possible, with absorbent cotton wrapped about applicators, taking more care than ever to use no violence. A little blood on the cotton withdrawn is not unusual.

5. Insert the light-carrier. Even if urine does trickle into the posterior urethra and out through the urethroscope, it will not extinguish the light, as it would were an uncovered incandescent wire employed. The posterior urethra can therefore be most deliberately examined, its secretions mopped up, and applications made under the guidance of sight.

An intravesical irrigation of potassium permanganate, 1 to 6000, or of boric acid 4 per cent., should be made, after posterior urethroscopy.

### DIAGNOSIS.

*The Urethra in Health.*—It is hardly any longer a question whether the physician is ever warranted in inserting an instrument into the healthy urethra. Scrupulous asepsis of the instruments, exquisite gentleness in the technic, render the study harmless to the patient and of surpassing usefulness to the physician. Nevertheless, if scruples, which should be respected, prevent a practitioner from studying the healthy urethra, there remains for him a category of persons with normal genitalia, to whom urethroscopy is a decided benefit. I refer to neurasthenics. No matter how perfect the condition of their urinary channels, nor how firm the physician may be in assuring them of that fact, they are well satisfied and believe themselves improved with each urethroscopic examination.

The study of urethroscopy on cadavers is absolutely useless. Circulation having ceased, the natural color and consistency of the mucosa is gone, and offers no means for comparisons.

A first glance into the normal urethra reveals a red glare, recalling one's initial effort at ophthalmoscopy. With very little practice one learns to distinguish brilliancy, colors, folds and striæ. The normal "central figure" that presents when the tube is held in the exact axis of the canal merits study, as do also the mouths of the crypts, which become evident to the investigator a little later on. It will be found that the urethra, like other organs, varies exceedingly within the limits of health.

### THE NORMAL ANTERIOR URETHRA.

The normal brilliancy of the urethra varies in its different parts. The cavernous portion is so brilliant that it suggests disturbing reflexes. The fossa is perhaps almost as brilliant, but the paleness of its submucous tissues makes the whiteness thereof more apparent.

The normal color varies considerably. It may be

[1] Valentine: "The Irrigation Treatment of Clap," Internat. Jour. of Surg., September, 1898.

anemic—pale or light pink; moderately hyperemic—roseate to red; hyperemic—intensely red.

The normal folds vary with the caliber, thickness and consistency of the urethra. A narrow, anemic urethra shows slight folds or none at all, while a wide, thick, coarse urethra contains five to eight folds of mucous membrane, more or less deep.

The normal striæ appear as fine yellowish-white marks, radiating from the central figure, on the eminences of the folds. This striation is not found in all urethræ.

The normal central figure suggests the opening of a rubber "spring" tobacco-pouch, where the distal end of the tube presses against the mucosa by its weight. Ever so slightly drawing the penis out gives this region a funnel-like appearance, leaving the "central figure" somewhat smaller, and differing in various parts of the urethra. Just behind the glans it appears as a small round or oval opening; deeper within the urethra it looks like a closed dimple; at the bulb its lower half arches forward.

When drawing the tube out of the urethra, five to ten shallow little depressions fall into view, most of them centrally located toward the upper two-thirds of the canal. Those are the openings of the Morgagnian crypts.

The megaloscopic attachment will considerably augment the apparent size of the above described parts. It will also make evident the superficial blood-vessels of the urethra.

The colliculus seminalis is usually the first thing seen in the posterior urethra. It is about the size of a split pea, semiglobular in shape, sometimes flattened and smooth, sometimes elevated and with a furrowed surface. It has the same red color as the surrounding mucous membrane. Depressions, suggesting crypts, may sometimes be seen about it. These are the openings of the prostatic sinus and of the prostatic and ejaculatory ducts.

The sinus pocularis varies in shape and size in accordance with the variations in the colliculus. In some cases it extends to the end of the bulb, in others it is exceedingly short.

The posterior urethral funnel is very short.

The brilliancy of the posterior urethral mucosa is less than that of the anterior.

The posterior urethral folds are so shallow as to convey frequently the impression of complete obliteration.

The anterior boundary of the posterior urethra is naturally the posterior boundary of the anterior urethra. The withdrawal of the tube marks it clearly, not alone by the release from the tight grasp of the compressor on the tube, but also because of the appearance of the marked folds of the bulbous portion.

Bleeding at a posterior urethroscopy is not at all infrequent, especially when made for the first time.

### URETHROSCOPY IN ACUTE URETHRITIS.

In obedience to ordinary surgical principles, no instrument should be inserted into an acutely inflamed urethra. The only exceptions therefor arise when a foreign body must be removed, or when catheterization is necessary to relieve retention of urine. These, however, are emergency operations, undertaken in order to overcome immediate peril, and with full consciousness of the danger of systemic infection to which the patient is exposed by the operative maneuver. But for the causes named, there would be no purposes in subjecting the patient to the pain and danger of urethroscopy while a urethritis is acute. Besides, the discharge would occlude the tube, rendering visual examination impossible. Moreover, as no possible benefit can be derived by the patient, the physician is not warranted in risking the loss of his eyes in the necessarily close contact with the infected urethra.

### URETHROSCOPIC APPEARANCES IN DISEASE.

For the student's convenience, the appearances of the urethra are hereby alphabetically arranged. Nothing further than a mere introduction to the study of urethroscopic diagnosis is herein attempted.

*Bleeding in Posterior Urethra.*—It bleeds readily from mere contact with the tube, in the soft infiltration of chronic posterior urethritis.

*Bleeding Spots.*—Where epithelial denudations have been followed by slight granulations, these latter bleed easily.

*Blood-vessels.*—These are not visible in hard infiltrations.

*Brilliancy.*—(See luster.)

*Caput Gallinaginis.*—This is of pale, yellowish color, and lacks luster; does not project, is not wrinkled, but is flat and smooth in hard infiltration of the posterior urethera.

*Central Figure.*—This appears as a wide funnel in hard (dry) infiltrations.

*Color.*—A dull-gray appears in hard infiltrations.

*Cyanotic Purplish Color.*—This, in the posterior urethra, evidences soft infiltration.

*Denudation.*—There is epithelial denudation in advanced inflammatory processes.

*Desquamation.*—There is distinct epithelial desquamation in hard infiltration. Slight epithelial desquamation exists in somewhat advanced inflammation.

*Dull, Dry Epithelium.*—With a lackluster appearance, this indicates subepithelial inflammation of the glands. Their orifices are then not visible.

*Dull, Uneven Mucosa.*—When this is in the first stage of inflammation, the cellular infiltration is denser than ordinarily.

*Epithelial Denudation.*—This occurs in advanced inflammatory processes.

*Epithelium Desquamating.*—(See desquamation, epithelial—distinct and slight.)

*Folds.*—These are absent in hard, dry infiltrations; grosser, thicker, coarser, broader, and four to six in number instead of eight to twelve, in more dense cellular infiltration than usual in the early stage of inflammation.

*Gaping Glands.*—The orifices in Littré's glands and the Morgagnian crypts gape and are surrounded by a puffy, red, prominent wall, forming a distinct boundary from the healthy tissues in the more severe forms of chronic gonorrhea, with consequent infiltration around the crypts. Occasionally some secretion oozes from the orifices, in this stage of urethritis mucosæ, or soft infiltration.

*Glands and Crypts.*—These are always visible in the first degree of hard infiltration, as red, inflamed spots. They are not visible, or but very few appear, in the second variety of infiltration (dry infiltration), as their orifices are covered by epithelium and connective tissue.

*Glandular Orifices.*—When mucosa is diseased, more are visible than in health. When the epithelial layer of the mucosa is destroyed, more or less of each gland is exposed, according to the depth of the invasion. They appear as minute, red specks, mostly in groups. When the megaloscope is used, the glandular form and ducts become plainly visible.

*Granulations.*—These appear on spots that have been denuded of their epithelium. They often bleed readily on contact with the margin of the tube.

*Grey Color.*—In hard, dry infiltrations, the mucosa has a grey color.

*Greyish Opaque Veil.*—This covers the mucosa in severe infiltrations.

*Hard Infiltration.*—This is rare in the posterior urethra. It is the outcome of transformation of cellular into fibrous infiltration. Its urethroscopic manifestations naturally vary with the progress of this transformation.

*Hillocky Mucosa.*—This occurs in hard infiltrations. The mucosa has lost its brilliancy, and may distinctly desquamate.

*Infiltration.*—Hard infiltration is rare in the posterior urethra; soft infiltration is frequent in chronic posterior urethritis.

*Littre's Glands.*—These are grouped about the Morgagnian crypts. They are ordinarily not visible in health. The experienced urethroscopist employing the megaloscope, may, however, in many cases, see the mouths of the normal Littré's glands and even part of their ducts, as they descend beneath the epithelium of the mucosa. The mouths of these glands may remain visible for a long time after the urethra has returned to health. They may also, on the other hand, be superficially invisible in disease, if the pathologic process occurs subepithelially. The form of disease affecting these glands, whether visible or not, shows its results on the Morgagnian crypts, about which they are clustered. The greater the intensity of the infection of Littré's glands, the more clearly are the mouths of the Morgagnian crypts evident. The mouths of Littre's glands, in simple swelling, present as small, red points. Large, red points, projecting into the urethra, show that Littré's glands are in a state of infiltrative inflammation; the glands are invisible in the dry form of hard infiltration. In this condition, the epithelium looks dull (lackluster) and dry, and desquamates in spots.

*Luster.*—This is apparently increased by liquid—glycerin, cocain, mucus, or urine—left on the mucous lining. To prevent error, the surgeon should attempt to remove any excessive luster by careful use of absorbent cotton attached to applicators. It is decreased with increased infiltration and in epithelial desquamation with or without infiltration. The brilliancy is entirely lost in hard infiltrations. It is gone in epithelium covering glandular orifices, with dull dry appearance of mucosa; subepithelial inflammation of the glands is indicated thereby. Luster is increased in the subacute superficial urethritis. The mucosa is congested and swollen from cellular infiltration. The luster of the posterior urethra is increased in soft infiltration.

*The Morgagnian Crypts.*—These are visible in all chronic diseases of the urethra, and are modified according to the intensity of the disease in Littré's glands; the mouths of the crypts are larger than those of their surrounding Littré's glands, often appearing as quite decided dark red slits. The variations from simple swelling to infiltrative inflammation are similar to those which take place in Littré's glands. When in megaloscope is used, and slight pressure made on an opening of a crypt by bending the urethra, pus may be seen welling from the red slit. Its patency—"gaping"—will then become more evident, and show that it is not a tear in the urethra, but really a widely open emunctory duct.

*Neoplasms.*—The most frequent tumors of the urethra are papillomata and fibrous polypi. Carcinoma of the urethra is very rare. Oberlaender was the first to make an early diagnosis of carcinoma by means of the urethroscope (1893).

*Opaque Greyish Veil.*—This covers the mucosa in the severer forms of infiltration.

*Posterior Urethroscopy.*—This is not permissible in acute or subacute posterior urethritis, in tuberculosis nor in acute prostatitis.

*Prominence.*—A reddish prominence within the mucosa, with a central dimple and invisible lumen, is seen when the inflammation has become follicular. The finger can feel these encapsulated follicles as small hard nodules. Their breaking down may produce periurethral abscess.

*Psoriasis Mucosae Urethralis.*—Oberlaender—(see white patches).

*Purple Color.*—(See cyanotic color.)

*Red Specks.*—Red specks with swollen, puffy surroundings, occasionally exuding a watery, milky or purulent discharge, show a mild inflammation of the Morgagnian crypts. (See also glandular orifices, and Littré's glands.)

*Resistance.*—Resistance to the urethroscopic tube as it is being introduced is felt in hard infiltrations.

*Rigid Urethra.*—The denser the fibrous tissue in dry, hard infiltration, the more rigid does the urethra become; in its fully developed form, there appears a white cicatricial tissue, spotted with groups of the red orifices of Littré's glands.

*Scaly and Uneven Epithelial Layer.*—This exists in severer infiltrations.

*Smoothness of Epithelium.*—This is lost in severe forms of infiltration of the mucosa.

*Specks—Red.* (See glandular orifices, also Littré's glands.)

*Specks*—White. (See white patches.)

*Striae.*—These are almost or quite obliterated in dense cellular infiltrations; no vestige of them remains in hard, dry infiltrations; they may be absent in a normal urethra.

*Swelling of Mucosa of Posterior Urethra.*—This occurs in soft infiltration.

*Transparency.*—The transparency is lost in hard infiltrations.

*Tumors.*—(See neoplasms.)

*Ulcerations.*—These, if due to epithelial denudations of inflammatory origin, are usually longitudinal. They may result from traumatism produced by excessive or violent dilatation. Ulceration of a circular tendency may be chancre or chancroid.

*Uneven and Dull Mucosa.*—This occurs in denser cellular infiltration, at the first stage of inflammation.

*Uneven and Scaly.*—There is an uneven and scaly epithelial layer in severe infiltrations.

*Veil.*—A thin veil seems to cover the urethra in hard infiltrations; in spots, elevated, scales are present. These gradually heal.

*White Patches.*—These, irregular in shape, from small specks to large patches, were called "psoriasis mucosæ urethralis" by Oberlaender. Kollman found these psoriatic pellicles to consist of cumuli of firmly agglutinated epithelial cells, whose nuclei stained distinctly with Bismarck brown. These epithelia were of polygonal pavement shape, rounded epithelia and some high cylindric, as are found on the prostate. The course of this psoriasis is very chronic.

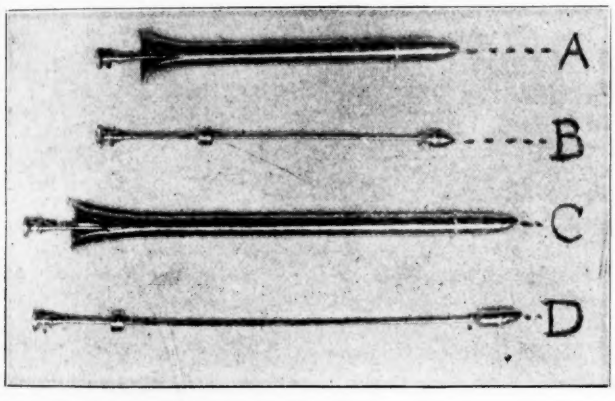
In the preceding pages, as is evident, no pretense to give more than outlines of urethroscopic diagnosis is attempted. I hope that enough has been said to prove the need of distinctly seeing all parts of the urethra before any ideas of the treatment of its diseases can be formed. My efforts in the development of the ureth-

roscope to an effective instrument, as easily manageable in the hands of the general practitioner as in those of the specialist, will, I hope, stimulate others better equipped than I, to further the interests of science in this unfortunately neglected channel.

To summarize my thoughts on the subject: 1. No chronic disease of the urethra can be diagnosed or intelligently treated without the urethroscope. 2. The technic of urethroscopy is not difficult. 3. A urethroscope must be easily manageable, of a prime cost, and of a price of maintenance within the means of the average general practitioner. All these requirements I think are attained in the little instrument I have the honor of demonstrating.

DISCUSSION.

DR. L. B. TUCKERMAN, Cleveland, Ohio—I do not desire to open up a discussion on a question on which I am not competent to speak. I am a tyro in urethroscopy, working with an instrument of my own devising and with a head mirror. I wish to compliment Dr. Valentine on the exceeding beauty of the light and the results; but I wish to show an instrument by which urethroscopy can be extended into cystoscopy. I have for the purpose of vesical examination made a slight modification in the shape of the obturator. You know, when you introduce the ordinary instrument to the end of the patulous urethra, if the obturator, the point being at the mathematic center of the circumference of the instrument, in the hands of the ordinary




A—Otis urethroscope.
B—Conical ovoid obturator.
C—Otis urethroscope lengthened.
D—Obturator modified to facilitate entrance into membranous urethra and passage over the prostate.

practitioner, catches under the opening in the triangular ligament, it makes some considerable pain to the patient to get it in. I have modified the shape of the obturator, making the point at the side, instead of in the middle, and, by that means, with a little care, the point enters with ease through the triangular ligament into the membranous urethra over the prostate and into the bladder, and with Dr. Valentine's light, you can see the fundus of the bladder, just as easily as you can the urethra, and by altering the direction of the instrument you can explore the whole of the inner surface of the bladder as you can the female bladder with the Kelly cystoscope. If you have the skill to bring it into view you can see the opening of the ureter in the male as plainly as you can in the female, and as you withdraw the instrument you can get a complete and satisfactory view of the whole posterior urethra.

DR. CAMPBELL, Chicago—I would like to ask Dr. Valentine how he decreases his amperage sufficiently to regulate the heat, as you do with your light, and whether you can increase your amperage without increasing your heat, and how long is the life of a battery?

DR. FERD. C. VALENTINE—It is satisfactory to me to note that Dr. Tuckerman is working along the same general lines that have prompted me to devise a cystoscope for the use of general practitioners as well as specialists. In principle, however, Dr. Tuckerman's instrument, which he had the amiability to present, is a modification of the one devised by my honored friend, Howard A. Kelly, who, by extending his tube hitherto used for the female, has made a male cystoscope of it. To my mind the curved form of Dr. Tuckerman's obturator is a great advance in the right direction. These instruments, however, all use reflected light. The cystoscope which I devised uses a direct light within its beak. In this it does not differ essentially from the Leiter, Nitze, Caspar, Albarrán or other cystoscopes. But by the special manner in which the fenestrum is cut, it gives a larger view of the bladder. Furthermore, 100 experiments have shown me that the bladder can be dilated with air, without harm befalling the patient. I will not occupy your time by presenting the anatomic reasons for this immunity in detail. Guyon explains it, to my mind correctly, by slanting entrance of the ureters into the bladder, which closes them the more tightly, the more the bladder is distended. Bransford Lewis has proven it in his reports of Bottini operations done with air dilatation. My literary researches show me that I am the first to utilize air-dilatation of the bladder for cystoscopy. My cystoscope, which it would be premature to more than roughly outline here, and which I will take pleasure in showing to those who will call at my rooms to see it, requires no preparation of the patient for its use, requires no bladder washings with a catheter, as do all others, dilates the bladder with air, and combines all the features of an examining, irrigating and operating cystoscope, as well as a cystoscope for ureteral catheterization.

The question asked regarding the amperage of the little battery for my urethroscope and my cystoscope must be referred to electro-technicians. The set of four dry cells, I had the pleasure of showing you, has, as the manufacturers say, a life of eighty-five hours. They guarantee thirty working hours. I have used one set of four cells for 400 urethroscopies. The little rheostat consists of twelve buttons. When the ninth is required for a clear light, I send to Rochester for a new set of four cells, and in less than five minutes, when the old cells are exhausted, they can be replaced with the new ones.

Those of you who have favored me by attending the demonstration of my urethroscope at Starling Medical College, will, I think sustain my claims for its bright light, its easy manipulation, both as an examining and operating instrument. I did not contemplate publicly mentioning my cystoscope now; but as Dr. Tuckerman kindly showed his instrument, he gave me opportunity to here publicly assert my priority in using forcible air dilatation for exploring the bladder, intravesical operations, removal of foreign bodies, growths, etc., under the guidance of sight.

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## REPORT ON THE SCHLEICH SOLUTION*.

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OMAHA, NEB.

Lawson Tait, the great Birmingham surgeon and acute controversialist, has been very quiet of late years and has not stirred up the American brethren as of yore, but he wrote a few words, shortly before his recent death, which did not need his name appended to identify them. He expressed his amusement at an article by a layman in the *Nineteenth Century,* recommending that "each one should refuse to take chloroform or ether without a guarantee that it should be administered on an open cloth and the time used to put them under should not be less than eight minutes." The layman charges the most inexcusable indifference to the patient's comfort by the anesthetist, usually the youngest man on the staff, a fresh graduate, with theoretic training only.

Tait then says: "The whole thing is discreditable to our profession and absolutely subversive of any claim it may make as a science. For here we have the greatest drug, chloroform, an ideal anesthetic, and we are not agreed about its administration, its power, its fatality; in fact, after fifty years of its use, we are only agreed that it is an anesthetic."

If Tait be right, then it is high time that we began to study. Our dearly beloved, plain-spoken, quaint old friend, Joseph Price, did a neat little operation last year at Denver. By way of introduction, he gave this homely definition of an anesthetic, which is the best one I ever heard. He said: "An anesthetic is an agent by which

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the patient is carried to the edge of death and held there while the surgeon does his work." The beauty of this definition is its truth. All general anesthetics do carry the patient to the edge of death; one topples them over the edge too often before the surgeon has a chance to do his work; another too often kills them later, after the operation is all over and the excitement has subsided; hence it does not make such an impression on us as it would had it occurred in connection with the operation. Let us keep this definition before us "lest we forget."

Cathell of Baltimore was a very wise man, and his book, "The Physician Himself," has been of great value to young physicians, but his advice to young doctors not to allow themselves to be called to do the minor work of giving an anesthetic is wrong. Years ago I discovered that anesthesia-giving is an art as well as a science, and one difficult to acquire. Long since I reached the conclusion that he who gave an anesthetic successfully, not only allowed the surgeon to do his best work unimpeded, but also belittled himself not at all when he conscientiously devoted his whole attention to his work, seeing nothing of the operation, realizing that the patient's life was in his hands, that he must carry him close to the edge of death and firmly and evenly hold him there, alert to every slight change in the conditions, quick of action, undismayed, yet conscious that, if death came to the patient on the table, the responsibility was on his shoulders. During a surgical operation, the anesthetist bears the highest responsibility, that of securing safety from immediate death. A distinguished medical friend recently said in the course of a discussion of this question: "Were I to have the need of a serious surgical operation tomorrow, I should pay much more attention to the question of who should give me the anesthetic than to the question of who should do the operation." The greatest among us does *not* lower his dignity when he places the patient on the confines of death, safely holds him there, dead to pain and consciousness, while the surgeon wields his knife, and then restores him to life.

A part of my plea herein is for the honorableness and high character and qualifications of the anesthetist, too long belittled and too little considered. Which one of us would lie down and allow a beardless, junior student to give him chloroform? Were I a surgeon I should rather operate on a patient under chloroform anesthesia than any other, just as I should rather demonstrate an operation on a cadaver than on an anesthetized patient. Chloroform, properly administered, comes nearer producing cadaveric quietude than any anesthetic. The danger of its producing genuine cadavers is inseparable from its constitution. The question of the highest degree of safety to the patient, sometimes a little lost sight of, is the one of paramount consideration. When one reads the statistics of Goult, made after an investigation of anesthetics by the German Surgical Society of Berlin, and they have not been challenged, he might with propriety think that the German surgeons need, at least a new anesthetic. They are, in part: chloroform, 2286 cases, 88 deaths—1 in 26 cases; ether, 6020 cases, 7 deaths—1 in 860 cases. Luckett of Mt. Sinai Hospital, whose record of ten years, 1263 cases of chloroform with but 1 death, and 4673 cases of ether with no death, does not rap them too hard when he says: "Such figures only prove a shamefully reckless disregard of legitimate precautions."

For fifty years the profession had accepted chloroform and ether and had used them empirically, content to know that we had agents of God-given power to suspend consciousness and sensation. After long years we had learned that chloroform is best given by the drop-by-drop method; that a more copious use of ether was possible if choking was avoided.

Schleich was not satisfied with the limited knowledge we had as to the "whys and wherefores." With infinite German patience he investigated and boldly announced that each killed by paralysis of vital function, usually due to overdose; that, the farther the boiling point of an anesthetic is below the human temperature, the less can be introduced into the body by inhalation; that, when the boiling point is about 98.5 degrees, the lungs can regulate the elimination so that about as much is exhaled as has been inhaled and anesthesia is slow and difficult; that, when the boiling point is 149 degrees, as is chloroform, more is inhaled than is exhaled, anesthesia is rapid, the excess is accumulated in the blood and a fatal result is reached from overaccumulation. When this danger is escaped, there remains, after the operation, a large accumulation which prolongs narcosis and must later be eliminated at a large cost to the lungs and kidneys. Ether furnished a different danger; when it was crowded, expansion took place, the pulmonary alveoli were distended, causing a large flow of mucous which embarrassed respiration, producing severe cyanosis and death. In an effort to secure greater safety, we had added alcohol to chloroform and ether for its supposed tonic effect and made the old A. C. E. mixture. It was safer, but we did not know why until Schleich taught us that it was by reason of the fact that the boiling point of the A. C. E. mixture was 40 degrees below that of chloroform.

Schleich therefore suggested various formulæ containing chloroform, ether and benzin in different proportions. His No. 3 formula was composed of chloroform, 30 c.c., ether, 80 c.c., benzin, 15 c.c. This was adapted to major operations and had a boiling point of 107.4 degrees. Several objections have been raised against this solution, among them that benzin is a poison, not an anesthetic; that the formula is a mixture and not a solution. Whether benzin is the best diluent or whether ethyl chlorid or some other agent proves to be the better, to Schleich still belongs the credit of inaugurating a new era in anesthesia. He alone has shown us why anesthetics kill, and told us how to minimize the dangers. He furnished us with a solution, entirely competent to produce surgical anesthesia, with the brain-centers far less profoundly involved, and therefore of far greater safety. In profound chloroform narcosis one never sees the pupils respond to light; they are contracted and immobile. On the other hand, during perfect anesthesia with the Schleich solution, it is not uncommon to see efforts at swallowing and free motion of the pupil when the eye is uncovered.

### METHODS OF ADMINISTRATION.

Sad experience has taught us that chloroform vapor must be given with a copious dilution of air. Notwithstanding numerous efforts to secure perfect automatic dilution by improved inhalers, the Esmarch mask has given the best results, especially if the drop-by-drop method is employed.

Since ether rarely kills when pushed fairly rapidly, the choking method easily came into use. This absolutely ignores the comfort of the patient, is quite likely to make him an enemy for life, and is by no means free from grave danger, for, under these conditions, ether kills just as chloroform does, by paralysis of all vital function. The best anesthetists begin it slowly, admit

some air for dilution, and avoid, as far as possible, the late dangers.

The early teaching of Schleich's disciples in America was that the mask should be covered with oiled silk. I tried it but found it very unsatisfactory. I then covered the mask with tea-lead. I soon found that I could apparently exclude nearly all the air and get anesthesia without cyanosis. Still unsatisfied, I stumbled on the idea of a metal mask, the shape of one-half of an egg cut the long way, with a pneumatic tire to secure perfect contact with the face. Japanese bibulous paper, twelve thicknesses, proved to be the best lining for the mask. I made the opening for the entrance of air and the reception of the solution seven-eighths of an inch in diameter. The Overholt dropper allows me to keep the paper moist or soaked with the minimal amount of the solution. Experience now showed the absence of cough, mucus and excitement, though the solution was two-thirds ether. The absence of cyanosis proved the entrance of an abundance of air. The ability of the surgeon to operate uninterruptedly showed the efficiency of the anesthesia.

Through the courtesy of Dr. C. C. Allison, surgeon in chief of the Presbyterian Hospital in Omaha, I have had the opportunity to give the Schleich solution about 200 times. During the summer of 1898 I was also invited to exhibit the solution in Chicago, in Mercy Hospital, the Policlinic, Cook County and Presbyterian hospitals and in the Chicago Dental College. It was given in the service of Drs. Freeman, Burton, Stehman, Hamilton, Brophy, Murphy and Etheridge. Dr. Etheridge was greatly pleased with its use and adopted it in his work. Dr. J. B. Murphy was kind enough to invite me to deliver a clinical lecture on it, and to say that it seemed to be an ideal anesthetic in the few cases in which he had seen me use it. I have now used it in 250 cases all told. The longer I use it the better I am satisfied with it and with its superiority.

Safety is the first thing to be considered in anesthesia. Speed which does not cause discomfort or endanger safety is desirable. I have been amazed at the rapidity with which corneal and surgical anesthesia can be secured without choking or excitement. I have had corneal anesthesia in 3 cases in one minute, in 7 cases in two minutes, and in 24 cases in 3 minutes. In 50 consecutive cases corneal anesthesia was obtained in an average of 4.2 minutes, with surgical anesthesia in 3.8 minutes more, so that the patient was ready for the knife in eight minutes on the average. One group of cases was unique. Dr. Brophy invited me to hold a clinic at the Chicago Dental College. Three patients were selected, 2 lads of 8 and 11 and a woman of 26; the lads had one tooth each to be extracted, the woman three. I gave the Schleich to surgical anesthesia to each; I awaited complete recovery to consciousness of the first before I gave it to the second, and of the second before I gave it to the third. From the beginning of the anesthesia of the first until complete recovery of the third was but twenty-four minutes. I have since given it repeatedly for the extraction of as many as sixteen teeth, with anesthesia perfect until all were extracted.

### QUANTITY OF ANESTHETIC USED.

It goes without saying that, with surgical anesthesia perfect for the surgeon's work, the less anesthetic used the better for the patient. The construction of my mask ensures economy of anesthetic. It is not at all uncommon, in ether anesthesia for a prolonged operation, to see 10 or 15 ounces used. The extraordinary minimal amount used with the Stone mask will be best appreciated by a few figures. I have used, in 250 cases, 5 ounces 3 times, for operations of 87, 125 and 127 minutes; 5¼ ounces, once, the operation being 125 minutes long, and 7 ounces once, the operation being a hysterectomy of 120 minutes duration. These 5 cases were all that used 5 ounces or more. On the other hand, it has astonished me to see how little would suffice for surgical anesthesia and the completion of the operation; 2 drams have sufficed for 2 operations of seven and eight minutes duration; 1 dram answered in a case of hernia in a baby of four months, the operation lasting 28 minutes. Fifty consecutive cases, requiring thirty-four hours of anesthesia, consumed but 93 ounces of the Schleich solution, being an average of 2 5/7 ounces for each hour of anesthesia. One of the 50 cases required 138 minutes and but 4 ounces of the solution; 10 of these cases were of sixty-six or more minutes total anesthesia. The ten consumed just 900 minutes; only 34 ounces of the solution were used, an average of 3 2/5 ounces for each ninety minutes, or 2¼ ounces for each hour of anesthesia. It must be borne in mind that, of this 2¼ ounces, for the sixty minutes' work, only .5 ounce plus 30 drops, was chloroform. The druggist of the Presbyterian Hospital in Chicago took a very commercial view of the matter when he saw how little I was using, and was very anxious, merely on the score of economy, to have the solution adopted.

### CHARACTER OF EXPERIENCE.

The question might with propriety be asked me: "Have you had a sufficient range of cases in the limited experience of 250 cases to pass an intelligent judgment on the adaptability of the Schleich solution to general surgery?" The lymphatic habit is well known to furnish the most unfavorable conditions for chloroform anesthesia at least, for eighteen deaths out of fifty-four cases have been recorded. I have given it repeatedly for adenoids, securing surgical anesthesia in one, two and three minutes, when the mask has been removed and the operator has had an abundance of time to clear out the adenoids. In no one have I had the least trouble. With careful examination of the urine, albumin has not been found in cases not having it prior to the anesthesia; in cases showing albumin prior, its quantity has not been increased. I gave it without incident in a case showing a marked mitral lesion, much albumin and a gallon of pus in an abscess of the liver. I have given it in a case of large abscess of the lung, the patient almost moribund; in empyema; for a Kraske operation; in appendectomies and numerous Bassini operations; in simultaneous trachelorrhaphy, perineorrhaphy and hysterorrhaphy; in hysterectomies; in various tubal and ovarian operations; in trephining for tubercular meningitis, the patient almost moribund; operation by Dr. Allison; and, by the way, this was probably the first time this operation was ever done, and the patient is on the high road to recovery; in a double castration and a Bassini on a man of over 80; in chronic bronchitis and for gastroenterostomy.

"But with what results?" one might also ask. No one has died. The utmost comfort and safety of the patients have been secured. The surgeon has been pleased. Slight excitement only was seen but three times in my last 50 cases; the solution was taken quietly and placidly; slight cough was present 4 times; mucus but once; slight nausea was seen 7 times—surgical anesthesia through the whole of the operations was continued and even; vomiting after the operation was seen in 9 cases but in no one was it severe or prolonged; subsequent nausea and vomiting have given so little trouble that I

have ceased to have the odor of cider vinegar inhaled after the operation; slight cyanosis was seen momentarily in 5 cases and to a serious extent in 1; this patient had serious mitral lesion, discovered beforehand, and yet, lowering of the head and 1-20 gr. of strychnia hypodermically, corrected it in a moment. In the 250 cases, cyanosis has been observed but 13 times and, in a severe degree, in but 2 of the 13. No more than a minute was spent in correcting it in these 2; the others merely required cessation of the anesthetic for a moment.

One condition has been observed which has not pleased me, rigidity of the body in early anesthesia, sometimes persisting beyond surgical anesthesia. I am inclined to attribute it to the benzin. I have not seen mention of it in the experience of others. Particular attention must be called to the function of respiration. It is one of the most delightful features of the use of the Schleich solution in my hands, that respiration is practically normal throughout the whole period. It is equally worthy of remark that 37 of my last 50 cases were absolutely ideal in their anesthesia.

The ideal anesthetic would be one which could be administered quietly, without causing cough, strangling, nausea, vomiting or the formation of mucus; one with whose use the patient would lie down as a child going to sleep, quickly and quietly dropping to sleep, then on to narcosis, with respiration not materially weakened in force; one with which surgical anesthesia could be evenly maintained for an indefinite period; one with which recovery would be prompt without depression, nausea or vomiting, elimination soon complete; one whose use would not be followed by any serious results.

As long as Price's definition is true, we can not attain to our ideal of safety; it *must* carry the patient to the edge of death; but, in anesthesia, as in mountain driving, it is well to keep as far as possible from the edge of the precipice.

Dr. Rodman of Mt. Siani Hospital, New York City, has furnished a report of 700 cases in which the Schleich was used. This is the largest number I can find reported by one observer, and deserves careful study. He states that his observations are most decidedly unfavorable and that he is abandoning its use. A summary of his conclusions is as follows:

"1. The consensus of patients is that it is not unpleasant and they much prefer it to ether, but prefer chloroform to Schleich.

2. The length of time required for Schleich is fifteen to twenty-five minutes, rarely less and occasionally more; ether requiring about the same and chloroform from five to fifteen minutes.

3. The mask is a serious disadvantage, requiring thorough saturation at the beginning and the fluid often trickles down on the patient's face, causing severe burns.

4. The stage of excitement is less marked than with ether and chloroform although occasionally pronounced. General relaxation is present in greater degree than with ether.

5. Irritation of mucous membranes is diminished with Schleich.

6. The reflexes are lost early, especially in the conjunctivæ, depriving the anesthetist of his most important safeguards. The pulse remains slow throughout and the patient assumes a generally cyanotic condition, respiration usually diminishing and the pupils being dilated. At this stage cyanosis increases, respirations become infrequent and shallow, the pulse loses quality, and breathing stops without warning; the face becomes markedly congested, reflexes absolutely absent, hands and feet blue and cold, pulse slow, feeble and intermittent. Artificial respiration was always resorted to and cardiac stimulants were necessary with other energetic measures.

7. Direct after-effects, as nausea and vomiting, are present to almost the same degree as with ether and chloroform.

8. The period of awakening is not shortened.

9. Several patients developed bronchitis and pneumonia, fatal in one case; also conjunctivitis and rhinitis; also albumin and casts appeared in cases with urine negative prior.

10. Its only advantage is its pleasant inhalation, though often disagreeable to anesthetist and bystanders.

He concludes that: "It is certainly less free from danger than ether or even chloroform." Evidently a "not" was omitted and he wrote that "It was certainly *not* less free from danger than ether or chloroform." I do not wonder that he abandoned its use. The only wonder to me is that he did not abandon it long before he did. I shall take up his criticisms one by one:

1. Those of his patients who had taken ether prior, preferred the Schleich; those who had taken chloroform prior, preferred it to Schleich. All of my patients, who had taken either, preferred the Schleich.

2. As to the length of time to secure anesthesia, he reports his experience with chloroform as requiring five to fifteen minutes, ether and Schleich alike, as requiring fifteen to twenty-five minutes. My experience with Schleich, as detailed above, is anesthesia in an average of eight minutes.

3. His mask requires thorough saturation and causes burns of the face. Saturation of the mask with the anesthetic, especially early, is the very thing to avoid, no matter what anesthetic is used. In doing this, he violated the teaching of every anesthetist of note. It is not only the cause of unnecessary discomfort to the patient but is positively dangerous; the fact that he could not secure anesthesia without this faulty method should have forced him to improve on his mask. This was a vital error and the source of his terrible cyanosis, failure of respiration and all his troubles. The mask allowed too great dilution of the vapor of the Schleich unless he asphyxiated his patients.

The Stone mask is made of metal and concentrates the vapor above the nose and mouth, allows none to escape below by reason of the rubber tire, and secures anesthesia more quickly by a slowly increasing drop-by-drop addition. The bibulous paper could be made to drip by a too rapid pouring on, but it is never necessary and I never burn the face. Neither do I use vaselin. The dropper I use is also an Omaha suggestion, coming from our late confrère, Dr. Overholt, long associated with Dr. Gifford. It is a perfect dropper and the best one ever used with chloroform as well as with Schleich. I regard its use as almost as essential as the mask.

4. As to a stage of excitement. He reports it present and, at times, pronounced. Saturating his mask early as he did, it must occur. I never have it in pronounced degree, and in a trifling degree only in 3 out of 50 cases. This feature has always been a great surprise to those accustomed to ether. The patients go quietly and quickly to sleep.

5. Our experience agrees in that Schleich does not irritate mucous membranes.

6. Dr. Rodman's experience with loss of reflexes, slow and feeble pulse, general cyanosis, dilated pupils, shallow respiration followed by cessation, congested face, blue hands and feet and the necessity of artificial respi-

ration and cardiac stimulants amazes me. This is a terrible indictment of the anesthesia and shows that Dr. Rodman must have been a very brave man to have continued his experiments up to 700 cases. Most men would have been content with ten. I have had practically none of these conditions. Instead of losing the reflexes I have had the usual ones and have added a new one which I have named the

DROP-JAW REFLEX.

Since the discovery of anesthesia we have known, of course, that the lower jaw participates in the general muscular relaxation, but I am the first, I believe, to call attention to the fact that it is a most valuable reflex to be used in determining the profundity of anesthesia.

In Schleich anesthesia with the Stone mask, corneal reflex is lost early, about four minutes; the mask being small, covers but little of the face; it allows a perfect view of the forehead, cheeks and ears; enabling one to see all changes of color; as anesthesia deepens, the pupil contracts to the size of a large pinhead; it is often mobile in perfect anesthesia, responding to light when the lid is raised; its gradual dilatation always means the necessity for more solution; the thumb and second finger of the left hand hold the mask tightly to the face; the third finger thus rests on the point of the lower jaw and plays with it every few seconds; in perfect anesthesia, the jaw is usually perfectly mobile; if anesthesia is lessening, tension appears in the jaw; this tension is a perfect reflex, calling for more anesthetic; with more added, tension again disappears and mobility reappears, hence its value as a perfect sign; in a few cases only, with perfect abdominal relaxation, the jaw has remained tense. In my experience, the pulse has been of good quality except in those cases in which there has been shock from a grave operation as in an abdominal section. Cyanosis has been rare and slight, serious only once or twice, never requiring artificial respiration. The function of respiration has been practically normal in my whole experience. Strychnia has been used a few times in cases in which the heart was feeble before the operation and the shock of it great.

7. He reports nausea and vomiting as seen almost as often as with chloroform and ether. Slight nausea prior to complete anesthesia in 7 cases and moderate vomiting in 9 cases out of 50 after operation is very much less than would have been seen with either chloroform or ether. Disuse of vinegar for post-operative nausea is good evidence of the absence of nausea.

8. He reports an equally long period of awakening. I have had a patient go through a Bassini without a movement of a muscle, and speak clearly within a minute after the mask was removed, but this was exceptional. The average of those cases in which the time was recorded was a trifle less than ten minutes.

9. He reports conjunctivitis, rhinitis, bronchitis, fatal pneumonia and induced albumin. Neither has been seen in my work.

10. While Dr. Rodman concludes that pleasant inhalation is the only advantage of Schleich, I must conclude that his horrible experiences were wholly due to a faulty mask and not to the anesthetic. My own experience teaches me that it is a far safer anesthetic than either ether or chloroform, and I believe it will displace them.

DISCUSSION.

DR. WM. JEPSON, Sioux City, Iowa—There is one statement in Dr. Stone's paper which I feel impelled to take exception to, and that is "that the Schleich solution as an anesthetic is superior to sulphuric ether or chloroform." My reason for calling into question this statement is the fact that the statistics gathered in Germany, England and Scotland would evidence that the mortality from the administration of chloroform is about 1 in 5600, and from ether 1 in 13,000. If this be approximately true, the number of recorded administrations of the Schleich solution referred to by the author in his paper is not sufficient on which to base data as to the relative safety of this mixture as compared with chloroform and ether.

The matter of producing an absolutely safe anesthetic has been much considered from time to time since the introduction of general anesthesia. The A.C.E. mixture was a product of these efforts; it was "weighed in the balance and found wanting." I fear that the Schleich solution will fare no better as to results. This fear is based on the fact that we have no right to expect that there practically occurs in its administration what is theoretically attributed to this anesthetic, and on which the originator based the claims of superiority. Schleich's theory in elaborating his mixture was to produce an anesthetic which should be possessed of a boiling point approximately that of the human body, so that its elimination through volatilization might rapidly take place after its administration was terminated. Thus, the three mixtures which he recommends are supposed to have boiling points of 38, 40, and 42 C., respectively. This is secured by mixing chloroform, sulphuric ether, and petroleum ether in varying proportions, so that they will have a mean boiling point of 38, 40, or 42 C., as the case may be. As no chemical bonds of union between these ingredients have taken place, how can the boiling point of any of them have become altered? Therefore, these mixtures can not be possessed of fixed boiling points of 38 C., etc., as the case may be, but of variable boiling points (or three boiling points), namely: 34 C. until all the ether is dispelled, then 60 C until all the petroleum ether is vaporized, and then 65 C. or that of the chloroform remaining. If this be true, then the Schleich anesthetic is not possessed of that characteristic on which its efficacy is based, namely, a fixed boiling point, but is a mixture with a variable boiling point, and hence it is probably no better than the A.C.E. or other similar mixtures, and entitled to no greater consideration.

DR. R. M. STONE—Petroliac ether.

DR. JEPSON—The conception that Schleich had was that these being aneshestics had different temperatures of evaporation. As I understand it, he made three different mixtures—with the point a little above this and a little below—the idea being to get the mixture at a given boiling point, that it would be eliminated more readily after the anesthesia passed away. This is not a chemical composition; this is a mixture; it is nothing more or less than a mixture, and I do not think it is entitled to any more consideration than chloroform and ether—more than the A. C. E. mixture.

DR. J. B. MURPHY, Chicago—I would say that I have had Dr. Stone administer the Schleich solution in Chicago for me, and I was immensely pleased with the result—the time was short, the patients were in good condition throughout, and they rallied rapidly. They did not vomit as they do after the ordinary ether anesthesia. Since then I have found it difficult to train the "new internes" and accustom them to it, as their service lasted but a few months. By the time one was thoroughly accustomed to it he had disappeared and a new man had to be trained. We were very much pleased with it in the cases in which it was used. I believe that there is a sufficient amount of chloroform in it to keep the doctor on the alert, and a sufficient amount of ether to aid the anesthesia. I would like to have some means of inhibiting the excessive quantity of ether administered in ordinary ether-anesthesia, something to prevent the drowning of patients with the ether. It seems impossible to train men to use a sufficiently small quantity of the anesthesia, even administered on a simple mask, drop by drop, or by the cone. We have tried the various methods and have found it extremely difficult to keep the anesthetist down to a small quantity, and after seeing Dr. Stone I was impressed with the ease with which the Schleich was administered. I am very much in favor of its administration.

DR. R. M. STONE, Omaha—I shall not attempt to reply to the criticism of Dr. Jepson. Chemists differ; some claim that it is a true solution, while others with equal force assert that it is only a mixture. It never separates after being prepared; it has different qualities from those possessed by either of its constituents: it seems to me to be a true solution.

It has not yet reached the minds of the profession that Schleich has made a discovery and announced a new principle. He has, and in time the profession will see it. The farther the boiling-point of the anesthetic is from human temperature, the greater amount of anesthetic absorbed by the blood; the greater the danger, not only during surgical anesthesia, from overwhelming the patient, but later, from inability to eliminate the large quantity absorbed. The boiling point of chloroform

is 149; Schleich's No. 3 is 104. This solution is capable of causing a surgical anesthesia with much less danger of overwhelming with overdose.

All anesthetists and surgeons agree that the less the amount of anesthetic used, provided you secure good and continuous surgical anesthesia, the better. My report shows that I have used less anesthetic than any other observer, and I attribute my results to the mask.

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## EXCESSIVE MYOPIA: WHEN MAY WE OPERATE AND WHAT MAY WE EXPECT?*

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Just one decade ago, Fukala called the ophthalmic surgeons of the world from the safe retreat of surgical conservatism, into which they had been so effectually scared thirty years previously by the disastrous experience of Mooren. He presented to the Wiener Medicinische Gesellschaft, two cases of excessive myopia on which he had successfully operated. But Lister had come and dispelled the shadows of sepsis, in which Mooren had probably done his work. Fukala, made brave by the experience of the preceding few years, worked in an entirely different light. The difference between Mooren and Fukala was the difference between sepsis and asepsis, and in no surgical work is the difference, as gauged by practical results, greater than in ophthalmic surgery.

The past ten years have contributed much to the elaboration of our knowledge concerning excessive myopia and its surgical treatment. Extravagant claims by enthusiasts and the lay press on the one side and theoretic objections to a rational consideration of the subject on the other threatened, early in the decade, to bring it into disrepute; out of all the discussion, however, have come tolerably clear indications for its performance, yet with sufficiently liberal margins in each individual case to stimulate interest and permit some speculation as to final results.

The following short history of a case here interposed may not be uninteresting. The deductions and conclusions at which the writer later arrives are not based on the study and observation of this one case, but on a number observed by him in the clinic of v. Hippel, at Halle, Germany.

Miss F. H., of Findlay, Ohio, a school teacher, 35 years old, consulted me in May, 1898. She had worn glasses about fifteen years, but had never had her eyes examined by an oculist of any repute. She consulted me in the hope of getting relief from tormenting asthenopia, rather than of securing useful vision of the right eye. She thought this eye was practically blind, but said she could remember when vision was good and that it had very gradually diminished. V. R. E., = 1/120 or less; with — 16 D. sph. lens, V = 6/21; no astigmatism; divergence of eye, 24°. The vertical deviation downward measured 10°. The eye was markedly larger than its fellow, and in conjunction with the other eye caused decidedly unpleasant cosmetic impressions. By effort, and when the left eye was directed far to the left, the divergent right eye could be brought to and a little beyond the median line.

The cornea and lens were clear, the iris normal in all its reactions, but the vitreous showed large black, numerous, floating opacities. The staphyloma posticum was large, and throughout the area of the fundus were isolated white flecks, the remains, I judged, of previous hemorrhages. Skiascopy revealed 15 D. of myopia. I advised removal of the lens. At the same time I candidly told the patient some of the dangers connected with the operation and some threatening such eyes when nothing was done.

In four weeks she returned and entered St. Anthony's Hospital, where, on June 22, under holocain anesthesia, I discised the lens. In the evening of the fourth day the patient complained of some pain. There was circumcorneal injection and tension was plus. On the fifth day she was suffering intensely with pain radiating over the right side of her head. She had slept none and had vomited early in the morning. The globe was injected and of stony hardness. I at once evacuated the anterior chamber of the swollen lenticular masses, and so marked was the immediate relief that the patient went to sleep within a half hour. On the fourteenth day a second evacuation of the lenticular masses relieved some irritation which their presence induced. A second discission on the eighteenth day, and a third and final evacuation of the anterior chamber of the lens, completed the work so far as the myopia was concerned. She at once said she could see better, though no accurate tests were made at this time. Tenotomy of the external and inferior recti muscles was done, and the seventh week after discission she came to my office with vision, without glasses, 0.1; with glasses, 0.3; eye quiet, no pain nor redness and asthenopic symptoms much improved; pupil a little irregular in the upper outer quadrant, showing a small angle where it was adherent to the lens capsule; opacities of vitreous unmodified; pupil clear in the exact center, but a hazy veil obstructing the greater portion of it. I permitted her to go home for ten days, giving her no glasses, but ordering prismatic exercises for the weak interni muscles. Even after tenotomy there was a divergence of some 6°-8°. On her return I ordered + 1.5 sp. ⌒ + 1 cyl. ax. 135 R. E., and thereby secured vision of 6/12. Prismatic exercises were continued, and she went to her home and in October again began her school work, against my most vigorous protest. In December I again saw her. By discarding the cylindrique and giving + 2.5 D. sp., I could obtain vision of 6/9. This she has worn ever since. A letter dated May 30, 1899, informs me that since closing her school she has been free from headaches, though during the term she had occasional attacks.

The question when to operate is often the severe test of the surgeon's ability. Of some six cases of excessive myopia, occuring in my own private practice within the past two years, the above is the only one in which the indications seemed indisputable. For practical purposes the eye was blind, as it was. It had, with its enlargement and divergence, already reached the stage of deformity, which means not a little to a young, unmarried woman. The asthenopia was well-nigh intolerable, and she felt compelled to earn her own livelihood by teaching. There had been hemorrhages, and we might be justified in fearing they would occur again, with what disastrous effect no man might estimate. That it was progressive is proven not alone by her own statement that she had noted the continued diminution in the visual capacity of that eye, but as well by the floating opacities which were of somewhat recent origin. A series of pictures taken since girlhood also prove its progressive character. Complete blindness from retinal detachment, or chorioretinitic changes in the macular region, so apt to occur from

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the third to the fifth decade of life in myopes, could almost with certainty be prognosticated, if something could not be done to stop the progress of the disease. There was but little to lose; there might be much to gain.

What were the results? She has binocular vision, and vision in the right eye is 6/9 instead of mere perception of light. Her friends now ask her which eye was operated on, so great has been the change in her cosmetic appearance. Her asthenopia is gone, and only when she taxes her eyes and strength beyond what they should endure, does she suffer. During the past year there has been no progress in the trouble; there have been no hemorrhages, nor increase in the vitreous opacities, and even the traumatic astigmatism has disappeared.

One decade ago almost any oculist would have said: never operate for excessive myopia. To-day one hardly dares to take that position. The first ten years have been full of discussion, and rich in experience. Not all questions have been answered, nor all doubts removed, but it is difficult to see how this operation can ever again be relegated to the obselete.

Age seems to play no rôle, or at least no very important one, either as an etiologic factor in the production of excessive myopia, or as a contraindication to operative measures therefor. The lens of a highly myopic eye, when discised, appears to behave in very much the same manner, be the patient 10 years old or 50, as it does not undergo sclerosis. Ten per cent. of von Hippel's cases were 35 years old, or more, and three of these were over 60.

Perhaps no part of the discussion has been given greater attention than the degree of myopia requisite to justify operative measures. Manifestly, that alone can not be the crucial indication. The comfort of the patient with correcting, or partially correcting, lenses; his capacity for work and self support therewith; the condition and behavior of the other eye; and, above all, the character of the myopia—whether progressive or stationary—all these considerations must be weighed along with that of degree. But for the time being, disregarding these points, it is interesting to take a large number of cases and note just what post-operative refraction resulted. I have selected von Hippel's 114 cases, because of my personal acquaintance with a number of them, and because I have a detailed report with permission to use them.

Among Professor v. Hippel's 114 cases:

3 WITH M. 10 D.
Post-operative refraction of all, H. 7D.

6 WITH M. 12 D.
Post-operative refraction of 3, H. 2D.
Post-operative refraction of 2, H. 4D.
Post-operative refraction of 1, H. 5D.

3 WITH M. 13 D.
Post-operative refraction of 1, H. 3D.
Post-operative refraction of 2, H. 5D.

10 WITH M. 14 D.
Post-operative refraction of 1, Ah. 4D.
Post-operative refraction of 1, H. 2D.
Post-operative refraction of 5, H. 3D.
Post-operative refraction of 1, H. 4D.
Post-operative refraction of 2, H. 5D.

13 WITH M. 15 D.
Post-operative refraction of 1, M. 1D.
Post-operative refraction of 1, E.
Post-operative refraction of 2, H. 1D.
Post-operative refraction of 3, H. 2D.
Post-operative refraction of 5, H. 3D.
Post-operative refraction of 1, H. 6 D.

17 WITH M. 16 D.
Post-operative refraction of 1, Ah. 4D.
Post-operative refraction of 4, E.
Post-operative refraction of 3, H. 1D.
Post-operative refraction of 3, H. 2D.
Post-operative refraction of 2, H. 3D.
Post-operative refraction of 2, H. 3D.
Post-operative refraction of 2, H. 4D.
Post-operative refraction of 1, H. 5D.
Post-operative refraction of 1, H. 7D.

4 WITH M. 17 D.
Post-operative refraction of 1, E.
Post-operative refraction of 1, H. 1D.
Post-operative refraction of 1, H. 2D.
Post-operative refraction of 1, H. 3D.

20 WITH M. 18 D.
Post-operative refraction of 1, M. 2D.
Post-operative refraction of 1, M. 1D.
Post-operative refraction of 3, E.
Post-operative refraction of 1, Amh.
Post-operative refraction of 1, Ah.
Post-operative refraction of 7, H. 1D.
Post-operative refraction of 3, H. 2D.
Post-operative refraction of 2, H. 3D.
Post-operative refraction of 1, H. 4D.

17 WITH M. 19 TO 20 D.
Post-operative refraction of 1, M. 3D.
Post-operative refraction of 1, M. 2D.
Post-operative refraction of 2, M. 1D.
Post-operative refraction of 6, E.
Post-operative refraction of 2, Am. 2D.
Post-operative refraction of 4, H. 1D.
Post-operative refraction of 1, H. 3D.

6 WITH M. 21 TO 22 D.
Post-operative refraction of 1, M. 4D.
Post-operative refraction of 1, M. 2D.
Post-operative refraction of 2, M. 1D.
Post-operative refraction of 1, H. 2D.
Post-operative refraction of 1, H. 4D.

3 WITH M. 23 D.
Post-operative refraction of 1, 2 M.
Post-operative refraction of 1, 3 Am.
Post-operative refraction of 1, 3 H.

1 WITH M. 24.
Post-operative refraction of 1, Am. 4.

1 WITH M. 25.
Post-operative refraction of 1, M. 2D.

Ten scattering including those with secondary cataracts and those yet under treatment.

These figures are interesting. They show that it is absolutely impossible to accurately estimate the final refractive condition of any highly myopic eye. Myopia of 10 D. in each case resulted in 7 D. of hyperopia, which is no gain, when one's loss of accommodation is taken into consideration. Emmetropia, the ideal refractive result, was attained in no case under the class with M. 15 D., and in that class only once in fourteen cases. Between 16 and 20 D. of myopia, about 25 per cent. of the cases resulted in emmetropia, though even in this class the range of variation was from myopia of 3 D. to 7 D. of hypermetropia.

A glance at the above grouping of his cases would seem to justify von Hippel's claim, that 12 D. should be the minimum grade operable, and only then when further indicated by functional disabilities or progressive organic changes. For some patients are more comfortable, have greater capacity, and are in less danger with myopia of 15 D. and proper corrective lenses than others with myopia of 10 or 12 D.

A word may be said here regarding the quantitative vision of a highly myopic eye. It is indeed difficult to give a standard gauge by which we may be influenced to operate on an eye, or be deterred therefrom. Most of these eyes are amblyopic—the amblyopia exanopsia—and it is difficult to determine what the perceptive elements are capable of accomplishing under the influence of a well-defined retinal image and plenty of time. In the absence of ophthalmoscopic evidences of organic changes in the fundus, which preclude the possibility of these perceptive elements regaining their function, the writer would consider the question of quantitative vision to be one of somewhat minor importance,

and confidently expect good results. His own case is evidence that such improvement in function is probable.

Somewhat closely associated with this feature of highly myopic eyes is the muscular imbalance. Shall we correct this before or after the removal of the lens? Experience proves that considerable imbalance may disappear spontaneously after the lens is removed, evidently due to the natural tendency of the eyes to assume a position of parallelism with each other, when distinct retinal images are formed in each eye. To be sure, the correction of the imbalance before the operation may relieve some of the asthenopic troubles, but can not affect to any appreciable degree the quantitative vision. If, therefore, this may be accomplished after removal of the lens, it seems plausible that the muscles should not be subjected to any radical procedure until after the operation. The degree of divergence will be found less in the aphacic eye, and we should take advantage of the aid which an improved retinal image lends in the correction of this defect. Where the divergence is excessive, the muscular correction may and should be done earlier than where it is small in amount.

Shall we operate in the presence of diseases of the fundus? In my own case there had been subretinal hemorrhages, though of not very recent occurrence. It has not occurred since operating. We know it often does occur in connection with posterior staphyloma. If the operation has any kind of prophylactic influence, which some of us believe, we should expect this influence on subretinal hemorrhage. This should hold also as regards retinal detachment, the one sequel which perhaps more than any other has been feared. Statistics seem to teach that it is less frequent after operation than when nothing is done. Cases are reported where it has occurred after periods of variable duration, but, on the other hand, where it has occurred in the non-operated eye, while its fellow, thus subjected to treatment, has escaped. It is simply a question whether the excessively myopic eye is safer with its lens in place, or with it out. Theories can be spun for each side of the question, and later in the light of added experience, it will be seen how absurd some of our theories have been. Meanwhile, experience is rapidly piling up testimony in the operation's favor, provided it be done under strict asepsis, and safeguarded by adequate indications. Choroiditis appears neither to affect nor to be affected by the operation. While I was in Germany, I saw Professor von Hippel operate in the presence of recent choroiditis. I see by a later report that new patches were discovered in this very case one year later.

As in no operation would one needlessly expose the eye to the dangers of infection, so in this one every effort must be made before operating to eliminate all diseases of the conjunctiva and lachrymal apparatus. When correcting lenses are worn, or even tolerated for short intervals, these highly myopic eyes are very much better than none, and no one is justified in taking unnecessary risks with the greatly reduced function of the eyes of these unfortunate people.

What may we expect after discission of the lens of an excessively myopic eye? If the lenticular wound be not too excessive nor too deep, the lens will swell up gradually and masses will slowly find their way into the anterior chamber. This may be almost filled without occasioning much, if any, disturbance. If the discission needle make a big rent in the anterior capsule, and be deeply thrust into the lens itself, swelling of the same may be rapid, and falling into and filling up the anterior chamber, the lenticular masses either interfere mechanically with filtration, or else accumulate faster than filtration normally takes place. In this event, increase of tension, with all the phenomena of an acute secondary glaucoma, supervenes—pain in the globe, radiating over the same half of the head, injection of ciliary vessels, and even nausea and vomiting, as in my own case. Evacuation of these masses is at once indicated, the use of myotics being of no avail. This should be done by the angular lance as used in the operation for iridectomy. The incision should be made at the sclerocorneal margin, and be 6 to 8 mm. in length. Without withdrawing the lance, pressure should be made on the posterior margin of the wound, thus permitting the aqueous to escape over the inner surface of the lance, carrying with it the semi-fluid opaque masses of the lens. This procedure will oftentimes be effectively aided by wiping away, with a small pledget of cotton, the particles of lens matter when they tend to dam up at the wound margin. The immediate result of this procedure is well-nigh astounding in those cases in which glaucomatous symptoms have arisen. Pain and discomfort give way to relief, and sleeplessness and disquietude to rest and composure.

The time elapsing between the first discission and evacuation of lens matter is variable even in the same individual. It may be a few days or several weeks. Probably one week is a good average. A second and a third discission may be necessary, as in the case above reported, and this as well in the aged patient as in the young. A clear pupil is seldom obtained without a secondary operation, as in cataract, though it did occur in my own case. In favorable cases, the period of treatment will vary from one to two months, during which time, if the organ remains quiet, the patient need not be confined to bed, except a few days succeeding each operation.

Schweiger's rule is that if you subtract one-half of the myopia from ten, the result will equal the post-operative refraction. This rule will hold in only about one-half of the cases. If a margin of 1 D. either way be allowed, the rule will hold in fully 66 2-3 per cent. of the cases. From what has been previously said, the rule will oftenest apply to that class of cases with myopia of 16 D. to 20 D. But whatever the glass necessary to correct the post-operative refraction, it is almost without exception that the quantitative vision thus secured is greater than it was before operating. This is due not alone to the enlarged retinal image and less dispersion of light, but also, and in greater measure perhaps, to the fact that the perceptive elements regain a lost function—or, as might be more exactly stated, develop a function heretofore undeveloped. Emmetropia, with vision ranging from 0.3 to 0.6; or hypermetropia, or myopia of 1 D. or 2 D. with V = 1 is not an uncommon result. In von Hippel's 114 cases, seven with V = 1 are reported, and in not one of these did the refraction vary more than 3 D. from normal.

But what is of greatest importance is that many of these people are brought from a state of dependency to one of self-support, from darkness to light; or, as in the case reported, from pain and disfigurement to health and comeliness. Even in those cases where vision is not *markedly* improved, the patients hail with delight the slight improvement which is usually obtained.

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FOR A new building, Mrs. Mary Keely, Spring City, Pa., has presented $3000 to the Phœnixville (Pa.) Hospital. She will also furnish and equip the largest ward in the hospital in addition, as soon as the building is completed.

# ENTERIC FEVER—ITS INFECTION, PATHOLOGY, AND PRESENT TREATMENT.*

BY FRANKLIN STAPLES, M.D.

WINONA, MINN.

The more important advances made in the different departments of medicine in modern times appear to have resulted more or less directly from various discoveries and developments in the science of bacteriology. In this way not only has the domain of practical medicine and surgery been widely extended, and new fields opened for advanced work, but in like manner great improvements in the management of disease have resulted from bringing into more intelligent and better use much of the means acquired in former times.

A brief mention of certain points in the etiology, pathology, and treatment of the common infectious disease, enteric (typhoid) fever, as they are now understood, may illustrate. The wide prevalence and great mortality shown in the history of this disease give much importance to any discovery which promises improvement either in its management or in the means of its prevention.

## TYPHOID IN THE PAST.

The time in the history of medicine when the disease designated as typhoid fever was first known is not determined; an account of its existence in medieval times appears in medical history. It is known to have prevailed in all countries and climates. Nearly fifty years ago the late Professor George B. Wood of Philadelphia, who had given much attention to the study of the disease, and was regarded as first authority in everything pertaining to it, declared that "nothing precisely is known concerning the cause of enteric fever. The circumstances of its production are very diversified. It is certainly often generated in institutions where human beings are crowded together, with insufficient or unwholesome food, or a confined and vitiated air." This was something of an approach toward an account, at least of what may be in part the sources of the disease; but a nearer advance toward a knowledge of the specific cause was made in later years, when its infectious character came to be better understood; in the light of which knowledge not only could a more definite view of the source of the disease be had, but more effectual means could be provided against the infection.

Progress was slow in determining the causes of infectious diseases before the time of the great advances of late years in the department of bacteriology. This advance was the beginning of a new era in medicine, the great light of which is now unfolding, the practical advantages of which largely appear in the intelligent means now used in the prevention as well as in the management of disease. It is known that a very common source of the typhoid germ is found in water, used for domestic purposes, whose sources of supply have suffered from sewage pollution; that it may be taken from milk and other articles of food which have been infected, and which are capable of for a time supporting the living germ of infection; also from the persons and clothing of attendants who have been careless in their manner of dealing, especially with the excretions of typhoid patients. There are many ways in which the substance of human excrement containing the disease germ may find its way into the bodies of persons not immune, and cause the infection. The following reports may illustrate.

*Milk as a Vehicle.*—An epidemic of typhoid occurred in a Connecticut town, in 1895, in which in less than two months there were 406 cases, concerning which the statistics were given as follows: Epistaxis occurred in 117 cases; the characteristic skin eruption in 360; hemorrhages from the bowels in 73, with 12 deaths; acute nephritis occurred in 9 cases, of which 4 were fatal. Perforations of the intestine occurred 7 times, with 6 deaths. Relapses occurred in 26 cases. There were 27 deaths in the 406 cases. Careful investigation concerning the origin of the disease in this epidemic traced it to a single dairy, where the pans in which the milk was first kept were washed with water from a shallow well, which was found to be contaminated by a leaking through the earth from several privy vaults in the vicinity[1].

*Oysters Infected.*—A number of students of a New England college were taken at one time with enteric fever, and four deaths occurred. A search for the cause led to the discovery that all who had suffered from the disease had eaten raw oysters at a banquet. At the same time it was found that students from another college had been served with oysters from the same source, and had alike suffered from the disease. Further investigation revealed the fact that, although these oysters had grown in the deep waters of Long Island Sound, they had been transplanted and "fattened" in the shallow water of a creek, at a point 300 feet below the outlet of a private sewer coming from a house where there had been two cases of typhoid fever[2]. This example shows the tenacity of life possessed by the specific microbe, in that its vitality is not readily destroyed even by salt water.

Further evidence of the vitality and of what may be the habitat of the typhoid germ has recently appeared[3]. In a locality where several outbreaks of the disease had occurred, examinations and experiments with the soil were made by a physician, the results of which were given as follows: He inoculated soil with typhoid germs, and from time to time took samples for investigation. He found that the typhoid bacilli were able to grow in certain soils, and that they could, under certain conditions, survive from one summer to another; the rains of spring and autumn and the frosts and snow of winter did not kill them. The part of the soil exposed to the sun showed no typhoid bacilli; but by scraping down one-sixteenth inch from the surface, organisms were found to be present. Cultures of the bacilli planted at a depth of eighteen inches grew to the surface, and others inoculated on the surface extended to a depth of three inches. It is possible that this downward growth may have been assisted by mechanical means, as rains and artificial watering. No lateral spread could be ascertained. Vegetation was detrimental to the healthy growth of the organisms.

As bearing on the probability of the source of infection here described, the writer has in mind a visit to a hospital in a city of one of the northern states, which was crowded with typhoid patients, most of whom had been laborers on the city's public works, working in trenches for water-mains and sewers. It is believed that prevalence of the fever, which was great in the city at that time, was due in part, at least, to infected soil. The rocky promontory on which a large portion of the city is built is mostly covered by a clay soil; but the impervious rock with its cup-shaped depressions, beneath the superficial layer of earth, continually held quantities of surface water which caused saturation of the contained soil, in many instances to the surface. The opening of some of these cavities by trenches cut

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through earth and rock, afforded a certain amount of sanitary drainage, and thereby was a valuable improvement; but it endangered the lives of laborers engaged in the work.

The public water-supply of this city, at that time, had been from the great lake on the shore of which the town is built. This also received the city sewage, and was credited with the return of a percentage of the same to the city through its public water-works. Thus it was that the water had its first opportunities for the direct infection of its consumers, and, secondly, was able to plant its surplus product in germ-producing culture-pots in the soil.

### CONCERNING NOMENCLATURE.

An idea of what has been the history of the progress of medical knowledge of this disease may be had from what has appeared in the names which it has received. It may be said, in a general way, that in many instances the names which have been given to diseases, show not only the extent to which the nature of the particular disease was understood, and a proper estimate and classification made, but indicate something of the general status of medical science at the time of their origin.

Gaspard Laurent Bayle (1778-1816) of Paris, because of his important investigation, was called the "godfather" of typhoid fever; and Chomel (1788-1858), another French professor, devoted his time to the study of the disease to such an extent as to be designated the "Chomel of Typhoid Fever;" but the term "typhoid"—like typhus—was made known by the French physician, Louis, whose work on "Typhoid, Putrid and Adynamic Fever" appeared in Paris about the year 1830. The term typhus, meaning stupor, was given to the fever which became known by that name, because of its apparent phenomena, showing a low or adynamic form of disease. M. Petit, also of Paris, had proposed the name, "entero-mesenteric fever," which looked more directly to a pathology and the location of the organic lesion which usually belongs to the disease. After Petit and Louis came Bretonneau, another Frenchman, who gave the name, "dothinenteritis," meaning pustule of the intestine. At the same time "follicular enteritis" came into use. Both of these terms had relation to the characteristic lesion usually found in the mucous membrane of the small intestine. It has been called "nervous fever," "continued fever," and "winter fever," for the reasons: 1, that the effects of the disease are manifest in the disturbance of certain functions of different parts of the nervous system; 2, that the want of distinct intermissions in the course of the disease precludes the idea of malarial poisoning as a cause; and, 3, because of its prevalence in the colder as well as in the warmer climates. The simple term "enteric fever," which is the name now generally preferred, was principally advocated by the late Professor Wood of Philadelphia, whose explanation concerning his choice of name was as follows: "It is merely intended," he said, "to express the fact that this fever is distinguished from all other idiopathic fevers by the frequency and extent of the intestinal disease. Other fevers are attended occasionally with the disease of the bowels; this almost always, if not essentially."

### SYMPTOMS AND COURSE.

Only a brief outline of what appears as the characteristic phenomena of this disease is here necessary. As before intimated, it occurs in all countries and climates. Adults are more liable to the disease than young children, although the latter are not exempt. Its invasion is generally insidious, and its development gradual. Languor, headache, increased temperature and accelerated circulation are usually present. In the early stage an alternation of temperature may occur with some regularity each day. The tongue may be coated at first, and, with the further advancement of the disease, may become dry and glazed, frequently with a brown stripe in the middle. In the further advancement, existing symptoms may become intensified and others may be added. The spleen almost invariably becomes perceptibly enlarged, the abdomen becomes distended and tympanitic, and small rose-colored spots appear on the surface. There is apt to be a certain degree of deafness, and an irritating bronchial cough is present; dark sordes form on the teeth, and a low form of delirium supervenes. Diarrhea is apt to occur, and hemorrhages from the bowels are not infrequent. These symptoms may be studied individually, in connection with the pathologic lesions found in the intestinal canal and in other of the digestive organs, and in the action of the disease on different parts of the nervous system.

### PATHOLOGY.

We may best come to an understanding of the pathologic conditions found in the disease, by a brief notice of the history of former management and observation, viewed in the light of present knowledge. Although somewhat out of place here, an item of treatment may be mentioned for reasons which will appear.

A little more than seventy years ago Professor Wood advocated the use of the oil of turpentin in the treatment of enteric fever; this especially in cases in which the glazed and striped tongue, and tympanitic abdomen, perhaps with diarrhea and hemorrhage, indicated inflammation of the intestinal mucous membrane, with ulceration and danger of perforation of the intestinal glands[4]. Other means and medicinal remedies then used in treatment, some of which are still in use, were the following: evacuation of the bowels, to be secured at the onset if possible; the use of refrigerant and diaphoretic drinks, cold ablutions, small doses of mercury, counterirritation and poultices to the abdomen, and supporting measures, with stimulation when required. These remedial means and measures are here mentioned, not as giving a complete treatment for the disease, but rather as noticing the part of some of them in the therapeutics of the disease, based on its pathology as now understood.

Concerning the oil of turpentin, as a remedy, Professor Wood, in emphasizing his recommendation of its use, says: "I can not too strongly impress upon the profession my convictions of the importance of this medicine. It is to be employed in all cases of the disease when the tongue is dry. It acts in some measure as a stimulant, but chiefly, I believe, as an alterative to the ulcerated surfaces in the intestinal mucous membrane." Notwithstanding the fact that this recommendation of the use of this remedy was made by Dr. Wood many years ago, it is observed, nevertheless, that it has by no means been relegated to the past. It now appears as a most valuable germicide in the disease. No less authority than Simon of England, with others, is represented as "preferring this to other intestinal antiseptics that have been suggested[5]." In the light of our present knowledge of the part of bacteria in the etiology and pathology of many diseases, and of the germicidal action of certain remedies, the term "alterative," formerly much used in therapeutics as a cover for what was not understood, has become quite obsolete. In explanation of the so-called alterative action of the oil of turpentin, and other remedies of this class, in conditions such as exist in the

intestinal canal and elsewhere in cases of enteric fever, we now have a knowledge of the specific action of these agents. In this way the oil of turpentin now comes to the front as a disinfectant and germicide remedy, whose properties render it especially useful, not alone in the destruction of the typhoid germ, but in aiding the repair of lesions on mucous surfaces, caused by the infection, as in the tissues of various organs. It is readily taken into the tissues, is found in the urine and other excretions, and is exhaled from the lungs.

Our present knowledge of specific pathogenic germs as disease-causes affords an understanding of much in pathology and therapeutics, which before could be known only in part—this from external appearances and apparent results. The advance of our knowledge of diseases, of which the one at hand is an example, has been from a theoretic basis for the pathology of disease, to the more satisfactory and substantial foundation in pathologic anatomy. We have in this case the specific germ known as the bacillus typhosus. It is in the province of bacteriology that most progress has been made in late years in the knowledge of the etiology and pathology of enteric fever. In the advance made by this means, however, enteric fever is but one disease among many.

### AIDS IN DIAGNOSIS.

As important aids in the diagnosis, we now have what is known as the Widal-Johnson serum test, in which a drop of the patient's blood is made to show the characteristic reaction—this even when taken at the inception of the disease; and the Ehrlich's diazo reaction test, by chemical treatment of the urine. Of the latter it may be said that, while the specific reaction may be obtained in the urine of typhoid cases, it has also been found in the urine of persons suffering from other diseases, viz., pneumonia and pulmonary tuberculosis, acute articular rheumatism, certain forms of meningitis, and a few other acute inflammatory diseases. For this reason this test is valuable principally as an aid to be used in connection with other means of diagnosis. These tests are based on what appears in the bacteriology of the disease, and are found to be reliable when properly used.

### NOTES ON PRESENT MANAGEMENT.

*Prevention.*—What is learned concerning the nature and physical properties of the agent of infection, in this as in other diseases, affords direction as to means of prevention. Immunity to the disease, either complete or partial, is natural in the bodies of certain individuals. The proportion of such to the number who are liable to the disease is unknown. Immunity acquired by artificial means is a quite possible thing in the future; it belongs to the great community depending for existence on what is called serumtherapy, is believed to have worthy parentage and respectable blood relations, but has not yet arrived at maturity; it is at best but an heir apparent.

Unlike any other infectious diseases, a common method of passing the contagion from one person to another in this is by allowing the lodgment of excrementitious matter, loaded with the infection, on persons, clothing, and articles of food, from and on which it finds its way to the alimentary canal. As preventive to this, chief importance is given to securing absolute cleanliness of patient and surroundings, and the careful disinfection and disposal of all excretions.

The advance of knowledge concerning the etiology and the means of prevention of this disease has correspondingly increased the responsibility of physicians and health authorities in the matter of its existence. A distinguished Chicago teacher gives expression to this thought as follows: "With its mode of propagation now so well understood, continued prevalence of the disease is a reflection upon the civilization of the age in which we live;" and he declares that numbers of our profession are not doing all they are able to do in the direction of prevention. He emphasizes the importance of directing preventive means to the destruction of the immediate cause of the disease, and observes: "The usual media of infection are the intestinal discharges. These should be disinfected the moment they leave the body. . . A 2 per cent. solution of carbolic acid, a 1-5000 solution of corrosive sublimate, or a 1-250 mixture of slacked lime, kills the bacilli of typhoid fever in fifteen to thirty minutes. The dejections of the patient should be received into a bed-pan containing such solution, and be thoroughly mixed with it, and allowed to stand an hour before being finally disposed of. The most watchful attention is to be given also to cleanliness of the patient's person." Further directions are given to the effect that after each evacuation, the parts liable to be soiled are to be bathed with a sublimate solution[6].

*Treatment.*—Modifications which have properly been made in the treatment of enteric fever are based on the present known pathology of the disease—its part in bacteriology. In the light of present knowledge, it has been greatly simplified. It consists in well-managed drainage from the bowels; in the early stages of the fever suitable evacuants are in place, but caution should be observed in the use of cathartics in the latter progress of the disease. Principal importance is given to the use of such disinfectants as will best and most speedily rid the intestinal canal of the specific disease germ; including such therapeutic agent or agents as, like turpentin, will follow and destroy the microbe in the tissues of organs infected. The oil of turpentin is most acceptable in the form of an emulsion. Small doses of mercury are admissible, and are antiseptic. Carbonate of guaiacol has been mentioned as of first importance. The use of salol has been favorably noticed. Recently an English physician has shown good results from the use of compound tincture of benzoin. This accords with what has been made to appear by the use of other medicines of this class. Beechwood creosote is a good germicide in this affection, as well as in tuberculosis.

Concerning the effect of the cold bath in the treatment of typhoid fever, it is claimed by a French physician, Robin, that with the temperature lowered, a better oxidation takes place in the process of respiration, and that thereby the toxic products of tissue destruction are reduced to harmless, excrementary bodies.

In the matter of the Woodbridge method of treatment, so-called, the fact that in it antiseptic and eliminative means are employed is of more account than are the author's methods of presenting his claims to originality.

A general supporting and sometimes a stimulating treatment is necessary to counteract, if possible, the depressing effect of the toxins of the disease on the vitality of the nervous system. The fact that the disease primarily affects certain important functions of digestion and nutrition renders great care necessary in the dietary for different cases and stages.

*Surgical Emergency.*—Laparotomy, for the purpose of repairing the lesion of perforation of the intestine has been attended with a degree of success. Statistics of this complication and of the operation for the same were given by Armstrong, an Australian surgeon, in 1897, in substance as follows: Between 1 and 2 per cent. of all cases are given as having suffered from this complication, and above 6 per cent. of the mortality of the

disease has been due to this cause. In twenty-three laparotomies in cases of true typhoid, done for closing the perforation, recoveries were had in four cases. Notwithstanding this low percentage of recoveries, the operation has been advocated for the reason that without it there is a certainty of fatal result, but that some hopes are offered by this procedure. The advice is qualified by a proviso, that laparotomy should not be resorted to when the pulse is strong and not too frequent.

In view of the great mortality from perforation, notwithstanding what has been offered by surgical operation, advance is demanded in one of two directions, or in both, viz.: Either our understanding of the disease, its successful treatment, or means of prevention, must be so advanced and so widely and practically known as not often to allow the existence of the advanced stage of the disease in which this complication is liable to occur; or, if cases of perforation must sometimes necessarily come, the surgeon's early presence and the improved technic of his operative measures must be such as to materially reduce the rate of mortality of the past.

It is true of enteric fever, as of most other diseases, that the greater success in management depends largely on a knowledge of when, where, and how to act. The knowledge of conditions, means, and methods now available should guarantee results not reasonably expected in former times; and the assurance now is that the better time promised is already at hand.

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## THE REVISION OF THE PHARMACOPEIA.*

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It is none too early for the medical profession to begin to discuss the revision of the "U. S. Pharmacopeia," which is to take place next year. While the actual appointment of delegates to the pharmacopeial convention rests with medical and pharmacal colleges, state societies and the three Government medical services, the revision should represent the opinion of the profession at large. This opinion can be expressed only by free discussion in print and in various medical meetings.

Within the last few decades a problem has arisen which successive pharmacopeial conventions have managed to ignore, but which must be faced in the near future. Up to 1860 or 1870, almost all drugs were either standard inorganic chemicals or vegetable substances which could be gathered by anyone with a working knowledge of botany, and which could be prepared for dispensing by very simple means. At present we are departing more and more from the older concept of galenicals, and are forced to adopt drugs requiring an elaborate knowledge of organic chemistry and special appliances for manufacture which can be economically employed only on a large scale. While the older animal drugs are few in number, and with one or two exceptions of little importance, animal extracts and antitoxins have recently increased the relative importance of the animal kingdom in pharmacy and a new departure must here be made by the future pharmacopeial revisers.

In regard to the use of galenicals, especially of the vegetable drugs, many physicians have passed through the following stages: 1. They have desired to know the effect and dose of any arbitrary preparation, for instance the tincture. 2. They have wished to have a standard preparation, such as fluid extract. 3. They have asked to know not how much of the crude drug was contained in a given amount of the extract, but how much of the active principle. 4. They have argued: "What is the use of employing the crude drug or a galenical at all? Give us the active principle and we will make our own dilutions." Twenty years ago, the triturate was introduced for the sake of having a 10 per cent. dilution of strong drugs. But, in practice, very few physicians have ever thought of the tablet as an officinal preparation, and they have ordered the amount of the active ingredient, without reference to whether the triturate contained ten times as much weight of sugar of milk or some other multiple. The abstract was dropped from the last edition of the pharmacopeia simply because those who were anxious for a standardized extract preferred the alkaloid itself, and those who did not were content with the old-fashioned extract of no particular strength. In fact, the day of galenical is waning, and we are aiming more and more at the isolation of active principles. There remain, however, several valuable drugs, like cannabis indica, digitalis and ergot, whose active principles have not yet been satisfactorily isolated for practical use. In such instances, and in many others for convenience or out of deference to the long-established habit, galenicals must be maintained.

Rather for the sake of eliciting discussion than to impress a personal opinion, I will briefly outline what seems to us an ideal treatment of galenicals by the Pharmacopeia. I do not intend, however, to convey the impression that I consider so radical a change from present standards feasible, immediately:

1. There should be one—and only one—active liquid and one solid preparation of each drug, adapted for internal use.

2. These preparations should be of definite strength, either with reference to the crude drug or the active principles. As the maintenance of galenicals is justified rather because of the existence of drugs whose active principles can not be isolated, it would perhaps be wiser to standardize with reference to the assayed crude drug in all instances, as by adopting the fluid extract and abstract for all plants used internally.

3. All preparations for external use, including ointments, plasters, liniments and certain solutions, should be of safe, maximum strength for application.

4. For ointments, there should be duplicate or triplicate preparations, of the same active content but differing in base, so as to allow an organic fat and a mineral salve to be used at will, as well as, perhaps, an absorptive ointment containing wool-fat.

5. The physician should never be compelled to consult a pharmacopeial list to determine whether such and such a preparation of any particular drug be officinal. Every galenical should be officinal for every drug to which it is applicable.

6. Unless required by certain physical and chemical properties, there should be no galenicals or definite simple substances, whether inorganic or organic, with the possible exception of ointments. Whenever volatility or deliquescence or dangerous caustic properties require the use of a solution, it should be as concentrated as possible. This would apply to ammonia, hydrochloric acid, formalin, zinc chlorid, etc.

7. A wider range of vehicles should be adopted. Choc-

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olate, in particular, should be more extensively used. Syrups and other vehicles should be simply vehicles, of indefinite dosage. Syrups of active drugs should be abolished, palatable combinations being prescribed extemporaneously as required. The confection should be more often employed.

8. Fine distinctions of terminology, such as between aqua and liquor, spiritus and tincture, as well as qualifying adjectives such as ammonia, alcoholicum, etherum, etc., should be dropped. The exact method of preparation of a galenical is of no interest to the prescriber, and details necessary for the guidance of the pharmacist should not be indicated in the nomenclature.

9. The number of galenicals should be greatly reduced. Most vegetable drugs would be represented by a fluid extract and an abstract. Wherever applicable, there would also be officinal, ointments, a liniment, decoction— including infusion,— solution,— including aqua and liquor,—spiritus—for organic substances requiring alcohol, ether or both as a solvent. The terms collodion, mel, oleum, etc., must be retained, but these are not galenicals in the true sense of the word.

10. The nomenclature should be revised so as to accord with the best chemical and botanic knowledge, except for some of the newer chemicals whose names are of inordinate length. While arsenic should be known as arseni oxidum, not acidum arsenosum; potassa should be called potassii hydras—or hydroxidum. Vegetable drugs are now sometimes officinal by the specific, sometimes by the generic, sometimes by a word that is neither the common nor the scientific name. The correct, binominal botanic term should be used in all instances.

11. The Pharmacopeia, in dealing with plants, should choose one of two alternatives: either it should officialize only drugs in common use and of marked value, or it should aim to be a complete list of the activities of plants and should officialize every medicinal plant. Since almost all plants are more or less medicinal, at least to the extent of possessing a bitter or an astringent principle, and since the chemistry and pharmacology of very few plants are known, the latter alternative is at present impossible. Nevertheless, certain general directions should be given for testing, preparing and naming all plants, so that, with the knowledge of the physiologic effect and the dose of a crude drug, it could be prescribed in any desired form, without fear of a variation of the product.

12. Dosage should not be dictated by the Pharmacopeia, though it may be included in the description of a drug as a matter of convenience. As a corollary, it follows that no pill should be officinal except as a pill-mass, the division into doses being left to the discretion of the prescriber.

In turning our attention to the animal kingdom, we find evidence of a still greater problem that confronts the pharmacopeial convention. How shall it deal with the more or less proprietary preparations of all kinds, that have come into growing favor? The problem, though not unknown to former conventions, has not outgrown the stage of purely abstract desirability. It involves the question as to whether the pharmacopeia of the future is to continue to be a fairly complete guide for the physician and the pharmacist, or whether it is to degenerate into a kind of peerage, containing the names of drugs of respectability and good ancestry, but not by any means representing the active personnel of the physician's aids. I do not wish to be understood as advocating the use of proprietary medicines, but I do hold that the function of the Pharmacopeia is to list the drugs that the profession actually uses, not those which it ought to use.

The present pharmacopeial list includes some nine hundred titles but, from the duplication of listing galenicals also, only about 550 crude drugs and chemicals are officinal. It is a matter of interest to know how many of the thousands of available drugs are actually employed. Personal experience may properly be given from the impossibility of securing more general statistics. The writer's practice may be considered fairly representative, for the specialty of digestive diseases involves a wide range of therapeutics. The writer's catalogue of office supplies includes some sixty drugs and chemicals necessary for use in the office, including anesthetics, a few simple antiseptics and dressings left over from general practice and retained for an occasional emergency, reagents and the ingredients of gastric and bowel washes and sprays. Besides these sixty office necessities, about 120 substances are catalogued that are drugs, from the patient's standpoint, including hypodermic tablets, supplies for the pocket-case, a few tablets of favorite drugs for office dispensing, and a rather large variety but very small bulk of comparatively new drugs. No attempt has been made to include the artificial foods, proprietary compounds, etc., with which physicians are so generously supplied. The last 774 prescriptions of the writer included 168 different substances: 121 were strictly officinal; 24 were definite chemicals, such as salacetol and unofficinal salts of officinal alkaloids or officinal metals, e. g., the salicylate of strontium, potassium and bismuth; 6 were unofficinal improvements on officinal drugs; 8 were animal extracts, foods and digestive ferments; 4 were galenical preparations of the unofficinal plants, cola, cactus, piscidia and condurango; 5 were out-and-out proprietary preparations—compounds of malt, peptonizing tubes, spice plaster, and migrainin. That is to say, 42 of the 47 unofficinal substances prescribed are omitted from the Pharmacopeia, not from any ethical grounds—unless in the case of certain new synthetic chemicals—but either because their virtues were not known at the time of the last revision, or because the writer rates them higher than they deserve.

The Pharmacopeia has, thus far, held to its original conception of the pharmacist as going out into the fields at certain seasons and gathering herbs, whose virtues he extracts with such simple apparatus as a stove, a kettle, a percolator, a mortar and pestle. Add to this apparatus a pair of scales, a graduate, a pill-tile, spatula and suppository mold, and the equipment is practically complete so far as the requirements of the officinal guide are concerned. It is no fault of the Pharmacopeia, neither is it a misfortune, that the science of pharmacy has as far outgrown the back room of the drug store as the shoe trade has outgrown the cobbler's bench. If the Pharmacopeia does not recognize the modern growth of wholesale pharmacy and pharmaceutic chemistry, neither the medical nor the pharmacal profession can afford to give serious recognition to the Pharmacopeia. While, in many instances, the shadow of commercialism and of extortion has hung over the newer remedies, we do not believe that practical advance in medicine need carry us far from the beaten track of ethical pharmacy. By far the largest and the most objectionable class of proprietary medicines, whether those that are openly advertised to the laity or those that tempt the physician to forget how to prescribe and to be the agent of a wholesale drug house, would be excluded by following the simple common-sense rule that polypharmacy should

not receive official recognition. Possibly an exception should be made in favor of a few old favorites, such as the compound cathartic pill, the Dover's powder, the Brown mixture of ammonium chlorid, etc.

Every definite, simple substance, whether inorganic or organic, which has been shown to be of service as a drug or as an office accessory, should be officinal. If our present patent and trade-mark laws cause a conflict with ethics, the Pharmacopeia should, nevertheless, recognize the drug, and the professions of medicine and pharmacy should then unite to secure a modification of the objectionable laws. In the fight against disease and death, no physician can hesitate to see whether his weapons are labeled "ethical," but must seize that which will be the best protection. If we remember rightly, it has been legally decided that neither the scientific nor the common name of an article can be reserved as a trade-mark. The monopoly of a preparation can be secured in one of two ways, either by patenting a method of preparation, which must be fully described and shown to be distinctly novel, or by the use of a trade-mark and keeping the method of preparation secret. The general processes of a science can not be patented, so that the preparation of a drug is open to anyone who can devise a new method, while a secret nostrum, covered by a trade-mark, is at the mercy of an expert analyst. As a matter of fact, almost all the monopolies of the latter class are compounds of no originality and little value.

The Pharmacopeia should adopt as its standard of strength and quality, the highest attainable, even if the competition of retail pharmacists is thereby excluded and the manufacturer is confined to wholesalers with elaborate and expensive equipments. The petrolata, as standardized by the last edition of the Pharmacopeia, are by no means equal to the clear products of several firms. The homeopathic mother tinctures are said to be, in general, far superior to those of the regular profession. Pill coatings of the crudest kind are still officinal. The manipulations of chocolate, gelatin, keratin and salol coatings, are quite unofficinal, nor are the cachets, the gelatin bougies for the urethra, rectum, etc., and many other refinements of pharmacal art, recognized by the authority that ought to stand for the best attainable in pharmacy.

It is still too early to discuss in detail the proper regulation of animal extracts, serums, etc., and the improvements and modifications of opinion which will follow within the next few years would render the wisdom of 1900 crude and imperfect long before the expiration of the next decade. The most that can be expected of the next revision is the formulation of some rules of nomenclature and a general recognition of opotherapy.

At the last revision of the Pharmacopeia, the repudiation of the metric system was greatly feared. At the next revision, there seems to be no probability of the reopening of this issue. So far as the body of the Pharmacopeia is concerned, we believe there is no need of mentioning any unit of measure or weight. As we have already pointed out, the separation of any part of an officinal substance into a pill or other dose, is to be deprecated, hence the Pharmacopeia need only designate the proportional parts in ordering the preparation of galenical. We believe that no one will question the advisability of using convenient percentages, whenever possible, and if a very slight change in relative proportions and active strength is allowed, the percentages may always be stated in convenient numbers. After the pharmacopeial preparations are made, the physician should be free to use his judgment as to whether he will prescribe in grams, grains or pennyweights, or any other unit on which he may agree with his local druggist. Nevertheless, for the country at large, only the metric and the apothecaries' systems can be officialized.

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## A PLEA FOR THE AGED*.

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One of the saddest commentaries on the medicine of the past can truthfully be said to be the neglect of the aged, as indicated by the scanty literature on the subject and the general apathy existing in the profession relative to the study of the normal changes as well as the diseases peculiar to advanced life. To the profession of France largely belongs the honor of laying the foundation for whatever we possess, fragmentary though it be, of senile pathology.

Prior to the beginning of this century those who wrote on the subject wrote, like Cicero, from a contemplative literary standpoint with the possible exception of the small treatises of Floyer, Welsted and Fisher. It remained for Pinel, in his elaborate treatise on "Clinical Medicine," published in 1815, the result of his vast experience in the Salpetrière Hospital, to furnish the nucleus of our present knowledge of senile pathology. In 1839 Constatt published his treatise on the diseases of old age. In this work we behold the first systematic effort to bring together the scattered fragments of senile pathology. Charcot, in referring to this work, says: "In it, imagination occupies an enormous amount of room at the expense of positive and impartial observation." Cruveilhier, a few years later, from material gathered during his stay in the Salpetrière, shed additional light on the pathology of old age in his "Atlas of Pathological Anatomy."

The works of Rastan and Charcot, both eminent clinicians, having access to the wards of Salpetrière, have contributed much to our knowledge of the diseases of advanced life. To Charcot, especially, are we indebted for a small but valuable treatise. Geist, Day, McLachlan, Cruveilhier, Beau, Humphrey, Fothergill and Loomis are names worthy of mention as able contributors to this much-neglected subject, and be it remembered that "The Twentieth Century Practice of Medicine" was the first of our many excellent works on practice to add *one* chapter on old age and its diseases. The want of interest, as indicated by the scanty and fragmentary character of the literature on the subject, is largely responsible for the apathy existing to-day in our medical schools. The average medical student passes the college curriculum hearing scarcely a reference made to the changes peculiar to age and having little opportunity to become familiar with the maladies prone to overtake the frame as the years speed onward. He scarcely recalls a reference by one of his teachers to old age, unless suggested in mitigation of the failure of some brilliantly planned but misguided operation or equally ill-timed drug treatment.

Surely if the pathology of childhood demands clinical consideration of a special kind such as it now receives in our medical schools, and it be indispensable that it be known from a practical point of view—and this the

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writer does not question—then, is it not equally true that senile pathology with its associated clinical manifestations calls for special consideration at the hands of medical teachers?

In order to make more clear the necessity for this, let us briefly recall some of the more pronounced changes due to age. From birth onward the increase of growth, though undergoing certain variations, gradually diminishes. Commencing at about 40 years of age, the prime of life declines into old age. The metabolic activity of the body, at first sufficient not only to cover the daily waste, but to add new material, later on is able only to meet the daily wants, and, at last, is too imperfect even to sustain the existing frame. As a result there must follow certain changes in the tissues of the aged, of an atrophic and degenerate character. The atrophic changes involve, especially, the muscles and glands. The cellular elements gradually diminish in size without apparent modification in their structure. The muscular fibers become smaller and more uniform in size; the spleen and lymphatic glands undergo a marked diminution in volume and weight, which increases with advancing years.

In the digestive tract the glandular parts and villi are shrunken. In many instances, however, the glandular elements seem to be those whose powers are longest preserved; and hence the man who, in the prime of life was a martyr to dyspepsia, by virtue of hypersensitive gastric nerves finds in his declining years that his nerves are blunted and his peptic cells are permitted to pursue their chemical labor undisturbed by extrinsic nerve storms, that he can eat and drink with the courage and comfort of a boy.

The eye in its prime in childhood, when its media are clearest and its muscular mechanism most mobile, later in life, when it would be of the greatest service to a still active brain, has reached a clouded and rigid old age.

Senile degenerative changes begin somewhat later than the atrophic. The tissues undergo fatty and calcareous changes. These changes are marked in the blood-vessels, especially in the cerebral arterioles, also in the voluntary and involuntary muscular fibers. Calcareous deposits occur especially in the tendons, ligaments and cartilages. In the central nervous system, the neuroglia tends to predominate over the nervous elements proper—the brain tissue undergoes a chemical change—the fatty constituents are diminished, while the amount of water and phosphorus is increased. As a result, the sensory and motor impulses pass with increasing slowness to and from the central nervous system, and the brain becomes a more and more rigid mass of nervous substance, the molecular lines of which rather mark the history of past actions than serve as indications of present potency.

Everywhere we observe a tendency on the part of the living tissue to fall back on the easier task of forming fat rather than to carry on the more difficult task of manufacturing new material like itself. In no part of the body is this more evident than in the arteries. One of the saddest changes of advancing years, because the most fatal, is the conversion of the supple, elastic, arterial tubes into rigid atheromatous channels, whereby the supply to the various tissues of nutritive material is rendered more and more difficult, and decay hastened. In consideration of a few general changes outlined as the result of age, it is evident that they must very materially modify the manifestations of disease in the aged, as well as its therapy.

For the purpose of illustration and contrast, permit me to briefly recall to your minds some of the more important pathologic, clinical and therapeutic distinctions between senile and adult pneumonia. To study intelligently diseases of the respiratory organs in advanced life it is necessary to bear in mind some of the more important anatomic and physiologic changes resulting from age. The thorax loses much of its mobility, due to ossification of the cartilages, and atrophy of the muscles. The tracheal rings harden; the bronchial mucosa and muscularis atrophy. The lung tissue becomes attenuated, less vascular and elastic. The air-cells become dilated, the capillary vessels in part obliterated. In consequence of these changes the breathing of old persons becomes embarassed and labored, thus impeding their locomotion and enforcing sedentary life.

The pathologic changes in senile pneumonia involve the apices by preference in the aged, the base in adults. The inflammatory changes are more often central, and the first and second stages shorter in duration, in the aged, than in adults. The terminal bronchi are invariably involved by the inflammatory process; the pulmonary pleura seldom; the reverse being the rule in adults. The hepatized lung is lighter and more friable in the aged.

Clinically, senile pneumonia differs essentially from the pneumonia of adults. It commences insidiously, and usually runs a latent course; especially is the latter true of intercurrent attacks. The disease is usually initiated by a slight chill, as compared with the sharp chill or rigor of adult age. Old persons seldom complain of pleuritic pain, or dyspnea, the reverse being the rule with adults. The systemic disturbance, as evidenced by pulse, temperature and respiration, is never so pronounced as in the adult. Expectoration is more tardy, difficult, scanty and less colored than in adults. The disease being asthenic in the aged, as a rule, is the reverse in adults. The physical signs are modified by the changes in the aged thorax. The percussion note is often one of exaggerated resonance, which slowly gives way to dulness over the affected area.

The auscultatory signs are less positive in advanced life, crepitation being of brief duration or absent, subcrepitant and mucous râles predominating during the first stage. Bronchial breathing, more intense than in adult life, marks the second stage, accompanied by mucous râles, the latter continuing into the third stage. Surely a disease differing so essentially in its pathologic and clinical aspects from that of adult life must require special treatment.

Let us take a second example, a very common affection of the aged, one of special interest to our surgical brethren—hepatic colic. As practitioners we are all familiar with the formidable aspect of hepatic colic in the adult. How different in the aged—slight pain or weight in the right hypochondrium, slight jaundice, perchance nausea, seldom amounting to emesis, accompanied by slight systemic disturbance make up the clinical picture in the aged.

The preceding brief and imperfect sketch tells us that the progress of age establishes a wide difference in pathologic and clinical phenomena by virtue of its physiologic modifications. The writer believes that the time is long past due when there should be an awakening in our medical schools to the importance of this subject; and an honest effort made to furnish systematic instruction, both didactic and practical: 1, in the normal changes, the result of advanced life; 2, in the diseases peculiar to old age.

It would seem criminal to even suggest the addition of another distinct course to the already overcrowded college curriculum, but I would suggest the following method of expansion:

1. That the chairs of anatomy and physiology impart to the student the necessary primary instruction relative to the normal changes peculiar to old age.

2. That the chair of practice, or if deemed best, in order to contrast disease, the chair of pediatrics, enlarge its scope and furnish the necessary pathologic and clinical instruction so essential to fully equip the student for the responsible duty of intelligently advising and treating the aged.

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## SPUTUM ANALYSIS AND THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

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Seven years ago I called the attention of the profession to the "Neglect of the Early Diagnosis and Treatment of Pulmonary Tuberculosis," in a communication read before the Arapahoe County Medical Association. At that time I used the following words:

"The great importance of the early diagnosis of pulmonary tuberculosis has been forced on my attention by finding so many tuberculous patients seeking the climate of Colorado long after their chances of recovery in that or any other climate have gone by. Considering it a matter largely preventable, by the profession realizing more clearly the causes that lead to this unnecessary and lamentable loss of life, I have analyzed the last 100 cases of pulmonary tuberculosis that have presented themselves for examination. This inquiry has nothing to do with the influence of climate nor the results of treatment, but was undertaken to find out how far the early recognition of the disease and its treatment affected the condition in which the patient first came under my observation.

"After carefully going over the notes of each case, I have made two classes. The first includes those in whom the disease was diagnosed and treated as soon as the symptoms given in the patient's history showed the disease sufficiently developed to be recognized by any ordinarily well-educated practitioner. By treatment, as applied to this class, is meant any means, hygienic, therapeutic or climatic, that was seriously used—not that the treatment was necessarily of the best, but that the cases were taken in hand and the patient advised in a reasonable manner. The broad question of treatment or no treatment of the pulmonary tuberculosis is dealt with, and not its details nor wisdom.

"The second class includes those in whom the history exhibits the fact that the disease was not diagnosed nor treated for a period varying from a few months to several years after the time that the real nature of the malady had clearly revealed itself.

"The 100 cases are not in any way selected, but are taken in the order of their examination, tracing back from the recent time when this inquiry was commenced, and were limited to this number simply on account of time and labor."

I have recently conducted a similar inquiry analyzing my notes of the first examinations of the last 100 cases of pulmonary tuberculosis presenting themselves for examination. I am glad to say that a comparison of the statistics shows an improvement in the latest investigation. In 1892 I found that diagnosis of the disease was delayed in 52 per cent., and the total average of delay was two years. In the present year I find that the delay was 45 per cent., and the average period of delay nine and a half months. In 1892 sputum examinations had been made in only 42 per cent., some of which were not made until some time after the disease was well advanced, so it may be said that in 65 per cent. this means of diagnosis was neglected. In 1899, 55 per cent. were examined, so that my figures show that in the intervening seven years there is an improvement in diagnosis going on; but the conditions are by no means as yet ideal. For, omitting the question of the use of the more delicate methods of early diagnosis, such as can be made only by experts, there are 45 per cent. of cases which should have been diagnosed by an average practitioner and in which the diagnosis was delayed for nearly a year. In the 55 cases in which there was no delay, 36 arrived in Colorado in the first stage, 7 in the second, and 3 in the third stage. That is, there was 65.5 per cent. in the first stage in those in whom there was no delay. In those in whom there was delay 8 arrived in the first stage, 20 in the second, and 17 in the third; thus but 18 per cent. were in the first stage. An analysis of several thousand treated in high climates shows that the average percentage of cures in the first stage is 65 per cent., and in the second and third stages combined only 15 per cent. It therefore means that 37 per cent. of the phthisical patients coming to Colorado are, in consequence of the delay in diagnosis, only given a 15-per-cent. chance of recovery, as against 65.5 per cent. to which they were entitled. In fact, granting the truth of these statements, 37 out of every 100 consumptives are slaughtered. This large, unnecessary destruction of lives is criminal, yet the authors of this are not themselves deliberate criminals, although guilty of criminal neglect. How can we explain this strange negligence? By investigating the causes and by calling attention to the lamentable facts we shall tend to remove this opprobrium from the profession. Often the delay in the treatment of tuberculosis is caused by the patient's own delay in placing himself in the hands of a physician. Such cases are, however, eliminated from this inquiry.

When a patient appears to be declining in health, without obvious cause, his morning and afternoon temperature should be taken, and if this can not conveniently be done by the physician, at those times, the thermometer can be left with the patient or his friends, with the necessary instructions. Again, the weight is not taken often enough or the pulse-rate noted. In many there is little or no cough or expectoration, or it is often denied or ignored by the patient, whereas some sputum can generally be collected and should by all means be examined. Blood spitting is frequently passed over as of no importance, and ascribed to the throat or nose when it really comes from the chest. If the patient can be examined at the time of the bleeding usually a few telltale râles are to be heard, and bloody sputum shows bacilli then and not at other times. A diagnosis of early tuberculosis can rarely be made by auscultation through the clothing. Sweating at night, unless considerable, is often not mentioned by the invalid. Shortness of breath is frequently ignored because the patient does not show it or speak of it when being examined. Both patients and doctors are for the most part too pessimistic in regard to their views of the curability of tuberculosis, and are still living, as it were, in the days when a patient was not considered tuberculous until he had become

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also phthisical, and that is, until he was obviously wasting away. This gloomy view of the disease often causes the physician to be chary of investigating for fear of declaring this unpleasant fact, when the patient will resent the suggestion of his having tuberculosis. Moreover, the patient often dreads going to a doctor who he believes will give an honest opinion.

The old myth that pulmonary tuberculosis was almost invariably hereditary has caused many a well-developed man with a good family history to allow his disease to become incurable because he did not know his danger. Again, patients so commonly prefer to frequently spend a little time and money with their physician and be tinkered up, rather than to submit to a thorough overhauling and perhaps a radical treatment at a greater though less frequent expenditure of time and money. Again, the physician who urges a thorough inquiry is often suspected of making too much of a case for selfish ends, and magnifying his own importance by unnecessarily alarming his patient.

A verdict of tuberculosis is supposed to always mean exile from home to a more favorable climate. While this is most usually the surest and quickest road toward recovery, there are often individual reasons why it is not the best course to pursue. Sometimes even a slight change of air, and for a short period, is sufficient, if the patient is radically treated as regards the hygiene of his home and person. At all events, in the very early stages, where the progress of the disease is slow, this can be tried.

I find that the poverty of the patient has some influence on the delay of diagnosis; in those in whom there was no delay, 16 per cent. were poor; in those in whom there was delay, 26 per cent. were poor. Again, showing the influence of the knowledge of medicine on the patient or his friends; in those in whom there was no delay, 22 per cent. were physicians or relations of physicians; while in those in whom there was delay, there only 9 per cent. were physicians, or of physicians' families.

If ever a suit for malpractice is justified against an educated and honest physician, it certainly is in many of the instances of neglect of the early diagnosis of pulmonary tuberculosis.

Let us remember that under appropriate treatment the large majority of cases of incipient pulmonary tuberculosis get well and remain well if they are instructed in and practice personal hygiene.

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## CONVULSIONS IN INFANTS AND YOUNG CHILDREN.

### THEIR POINT OF ORIGIN, NATURE, CAUSE AND MANAGEMENT.*

BY C. G. SLAGLE, M.D.

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No apology is demanded for discussing here what is only a symptom and not a disease per se; for of the many sudden, violent, and dangerous affections of very early life, I know of none which demand more prompt, careful, and skilful effort of the physician, than convulsions. Their suddenness, gravity, and frequency give to them a peculiar importance; and it is here, in a peculiar manner, that human life often hangs suspended on a prompt impulse of the physician's trained and cool intelligence. For what can be more terrifying to the parents and friends, or more dangerous often to the little patient, than an infant in the agonies of a well-developed eclampsia.

Most authors attempt to treat this intricate subject under four headings, or divisions, as: 1. Points of Origin. 2. Nature. 3. Causes. 4. Treatment or Management. But these divisions can not be discussed entirely separately, for in discussing the point of origin, we are necessarily contemplating, to a great extent, the cause, at least the "proximate cause," and also to a considerable extent, the essential nature of convulsions. Nevertheless, as we must systematize what we have to say on the subject, perhaps we can not do better than to follow these divisions as far as possible.

For purpose of study and treatment, convulsions have been variously classified, as to their points of origin, and exciting causes. The late Prof. J. Lewis Smith discussed them under the headings of "Idiopathic," "Symptomatic," and "Sympathetic," the first class being those purely functional—as from sudden, violent emotions, etc.; the second class, those from brain lesions; the third, those occurring as complications of diseases other than the brain—as pertussis, exanthems, etc. Professor Holt groups them under three headings, as those occurring from direct irritation of the cortex of the brain; those from reflex irritation; those from "toxic" influences. Other divisions, as you know, are into "Central" and "Peripheral," or "Centric" and "Excentric," etc. Professor Rotch has tabulated as to causes in an admirable manner under the two significant headings of "Central" and "Peripheral"—or reflex—and I think all of the *exciting* causes can well be grouped in his classifications.

Morris J. Lewis[1], for the purpose of differential diagnosis, etc., groups convulsions into eight classes, as follows:

1. Convulsions may be evidence of reflex irritation from some temporary and comparatively trivial disorder, such as constipation, overloaded stomach, irritation of teething, earache, worms, genital irritation, etc.

2. They may constitute an initial symptom of one of the exanthemata; or some other acute disease, either thoracic, spinal or cerebral, or they may be due to thermic fever.

3. They may indicate that the child is suffering from some general condition of ill health, such as indigestion, rickets, cyanosis, etc.

4. They may indicate gross intracranial disease of more or less chronic nature.

5. They may be a symptom arising during the course of one of the acute diseases, such as whooping-cough, or may be an evidence of toxemia in the exanthemata or kidney disease.

6. They may be the result of various traumatisms, such as injuries to the head, or a violent hemorrhage; other than cerebral; causing cerebral anemia, or from severe burns or shocks.

7. They may be one of a *series* arising without assignable cause; and constitute epilepsy.

8. They may indicate nothing more than a "A Mode of Dying," especially in those diseases which are accompanied by severe watery diarrhea and vomiting, as cholera infantum, etc.

This comprehensive summary would seem to embrace most of the exciting causes fairly well grouped; and as Lewis remarks, "Two or more of these classes may be found associated in the same case."

Some such grouping, together with the systematic tabulation of the various exciting causes, as Dr. Rotch has given us in his lectures, under the headings of "Central"

*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

and "Peripheral," will do much to facilitate the diagnosis and management of these often intricate symptomatic affections.

I take it for granted that this discussion is understood to exclude the somewhat similar, and often nearly allied, spasmodic neuroses, as puerperal eclampsia, epilepsy, chorea, hysteria, tetany, trismus; and, to some extent, that local spasmodic affection of infants, "laryngospasm." I accordingly confine it for the most part to "an acute affection of infants and young children," arising often without perceptible structural lesions of the nervous systems and characterized by partial or general convulsions, either "tonic" or "clonic," accompanied by more or less complete loss of consciousness. In other words, I limit it, as far as possible, to "idiopathic general convulsions of young children."

*Points of Origin.*—Many diligent and ingenious investigations as to the *points of origin* and "proximate cause" of convulsions have been made by such distinguished investigators as Kussmaul, Tenner, Brown-Séquard, Nothnagle, Gowers, Dickson, Marshall Hall, J. Hulings Jackson, Allbutt, Jacobi, Hammond, and a host of others, both in this country and abroad; but up to the present, without satisfactory or demonstrable conclusions; or even anything like uniformity in the theories deduced from their painstaking experiments and observations, and this part of our subject seems to be yet *sublite.* I do not therefore believe this is the proper place to go into a discussion in detail, of the various theories deduced from experimentations which have been presented from time to time as to the exact origin, or proximate cause and essential nature of these convulsions; they are too many and various and contradictory to be profitably discussed in a limited paper.

That much is yet to be learned in this direction seems certain. Holt says: "They are motor discharges from the cortex of the brain." Morris J. Lewis says: "Convulsions are in all probability due to an *exaltation* of the *lower* nerve-centers; or more frequently, to a suspension of the inhibitory power of the *higher* cerebral centers"—or both of these conditions may exist at the same time—and further, "It remains to be said that we are still very much in the dark as to the immediate processes producing convulsions."

Taylor and Wells[2] have well said: "Infants have their nervous system in process of rapid development—only the component but undifferentiated parts of which are in great activity, ready to receive and re-energize limitless new impressions." This may be done systematically and wholesomely, or irregularly and excessively, resulting in growth and development or explosively doing harm. At birth, the lower centers only are developed, hence control is limited until the higher centers become competent to exert *inhibition;* hence in the earlier months of life convulsions are common, and less so after two years.

Peterson[3] says: "Convulsions, whether local or general, have their origin in katobolic discharges of nerve cells, either in the cortex, or at the base of the brain." Further, he remarks: "There is no form of eclampsia generated from the ganglion cells in the spinal cord." This remark is made after reviewing and dissenting from J. Hulings Jackson's theory, that there are three levels from which such discharges may occur—as from the cells of the pontobulbar region, from the Rolandic area, and from a level which he (Jackson) conceives to exist in the frontal lobes, and to represent the highest control of sensory-motor functions. However, after quoting these plausible views without further comment, and having nothing new to offer or suggest on this intricate part of our subject, I shall pass at once to the consideration of the various well-known *causes* of convulsions, as the predisposing, exciting and proximate. Of the first and second at least, we have learned considerable.

In discussing the causes of disease, before my class, I am accustomed to employ an illustration, which I heard long years ago in the University of Louisville, Ky., and which has seemed to me to be well chosen—where the different causes generally given as the predisposing, exciting and proximate, or immediate, were compared to making a fire in a stove or grate; in this the combustible material arranged first is the predisposing, the match the exciting, and the union of the oxygen of the air with the carbon of the fuel is the proximate cause of the resultant combustion. I am aware, however, that some object to the designation "Proximate Cause," and I find it much less frequently employed than formerly, as it is really only the ultimate *effect,* rather than a *cause.* Nevertheless, I shall hold the illustration as an apt and proper one to enforce an understanding of the operation of the *causes* of disease.

In considering the predisposing causes, we must note as contributory, age, sex, heredity, temperament, environments, habits, season, diathesis, etc., while the exciting causes, as so well grouped by Rotch and other authors, will include as "Central": 1. Diseases of high temperature. 2. Diseases accompanied by vascular stasis. 3. Diseases characterized by anemia and exhaustion. 4. Various toxic causes. 5. Organic central lesions. 6. Presumably organic disturbances of the brain, as epilepsy, which is excluded from this discussion, and of "Peripheral" (or reflex) causes; rachitis, food, intestinal parasites, dental irritation, foreign bodies (in the ear, nose, etc.), hot baths, burns, etc., mental disturbances (such as fright, etc.) and many others like these; while the "Proximate Causes" must be considered with the points of origin and essential nature of these "Nerve Explosions."

Of all the manifold predisposing causes of convulsions in young children, the most important one is the natural instability of the nervous centers, characteristic of early life, and associated with the non-development of voluntary centers of the cortex; hence it is that age is a most important factor in the etiology of convulsions; and under 2 years is recognized as by far the most susceptible period, for patent reasons already stated. Statistics, indeed, show that over 60 per cent. of deaths from convulsions, up to 20 years, occur in infants under 1 year of age. Convulsions are not only more common in infancy, but much more fatal than later in life, and for reasons that are very apparent. It has been stated by some good observers that males seem to be more susceptible than females; indeed, carefully-gathered statistics seem to justify this conclusion, but it has been suggested by others that inasmuch as more males than females are born each year, the larger number of deaths in males may thus be reconciled, for surely it would be contrary to reasonable expectation, as females are more delicately organized, while the exciting causes are probably about equal. While high atmospheric temperature is a recognized predisposing cause, we also recognize the fact that elevated bodily temperature in infants may be an exciting cause of convulsions, where there is a predisposition to those motor nervous explosions. A temperature, much above 103 F., continuing for several hours, in a highly neurotic child, is

very likely to induce convulsions. I have seen an attack of convulsions precipitated in a very neurotic infant, from the application of a sharp sinapism, and more than once from a cantharidal vesicant.

I think there is sufficient evidence to justify the conclusion that there often exists in young children, what has been aptly called "a conclusive tendency," probably hereditary, when the predisposition is so marked that very slight excitation, such as anger or fright, or a trivial traumatism, indigestion, coryza, etc., may precipitate a convulsion; and which, in an infant of naturally a more stable nervous equilibrium, would do no harm. Severe burns or scalds are very likely to produce convulsions. One of the most persistent cases of eclampsia I have ever seen occurred recently from a severe scald involving most of the surface of the trunk and abdomen of a girl, 3 years old, who was in almost constant clonic spasms for twenty-four hours before death came to her relief.

Convulsions in infants are not uncommon in the inception of the graver forms of scarlet fever, and, if after the evolution of the rash, are almost uniformly fatal.

As to what exact rôle dentition plays in the causation of convulsions, good observers are not well agreed; but of the many attacks of eclampsia which I have witnessed in young children during dentition, I can not remember one case where I could be sure that the eruption of the teeth was more than a predisposing cause of the spasm; and I can affirm the same of the so-often accused intestinal worms. These may often be contributory, as one only of several factors, inducing convulsions, and should not be entirely ignored. Jamieson correctly remarks: "Dentition as an exciting cause of convulsions in infants, is not to be considered until all other possible factors are eliminated, as more than double the number of deaths, from convulsions in children occur during the first years of life, and according to statistics, over two-thirds of these occur during the *first six months;* so that dentition in these cases can not be taken as a cause."

But of all the causative agents in producing convulsions in young children, undoubtedly the food is the most common; probably, at least one-half of all convulsive attacks in infants and young children can be traced to this cause; either food wholly improper in quality, too much in quantity, or too frequently given. So also, bad hygienic conditions often contribute to this accident. Hence the necessity of emphasizing the fact that infant feeding and infant hygiene are the most important subjects in pediatric teaching.

While infants being fed with commercial foods, cows' milk, etc., are the most frequently attacked, I have several times seen the mother's milk precipitate violent convulsions in a healthy infant, within an hour after nursing, and which ceased when taken off the breast, only to return speedily when the breast milk was resumed. Another fruitful source of convulsions is to be found in rachitis and other forms of acute or chronic malnutrition, especially laryngospasms and tetany. So also toxemia, either from microbic agency or from renal affections, is a well-recognized source of infantile convulsions; and aside from all these factors, and many more, as causations of eclampsia, we must also recognize the fact that convulsions are often only "A Mode of Dying," in young children, when occurring late in acute affections, and continuing until life is extinct.

In regard to the diagnosis of eclampsia, it is not difficult as a rule, as we have only to differentiate from epilepsy, which the paroxysms so nearly resemble; the main point of differentiation is to remember that epilepsy is rare in infants under 3 years, the period when eclampsia is most frequent; that epilepsy, unlike eclampsia, is not preceded nor followed by symptoms of acute illness, and has a strong tendency to recur at more or less regular intervals and to become a chronic affection, but notwithstanding the paroxysm or motor nervous explosion, it does not differ in appearance from that of eclampsia; indeed, we must recognize the fact that what seems to be at first true eclampsia does occasionally merge into genuine epilepsy. Perhaps the most distinctive feature in epilepsy, when recognizable, is the peculiar "aura," which immediately precedes the "fit," and which is never present in ordinary eclampsia; but this being only a subjective symptom, it is of little value in diagnosis in infants and children under 4 or 5 years old.

As to the essential pathology of these convulsions, which are only symptomatic of so many different proximate causes, very little light can be obtained by post-mortem investigations; the "findings" will be as various as the producing causes.

When death occurs from general convulsions, it will be either from venous stasis in the brain—or effusion or hemorrhage on to that organ—or else by exhaustion from the prolonged attack. In laryngospasm, it may occur by apnea, or suffocation.

The treatment of convulsions is naturally divided into two parts: to relieve the paroxysm as soon as possible; and to endeavor to prevent its recurrence, by removing the cause, or rather by treating the systemic condition of which the convulsion has been only a symptom. But as the exciting cause can not always be readily determined in these emergencies, and as relief of the paroxysm is imperative, it is most fortunate that there are several agents and procedures available to quell the disastrous nervous explosion, and applicable to all cases, until we can investigate the exciting cause.

The first thing generally done is to immerse the child in a warm bath, from five to fifteen minutes, at a temperature of about 96 to 100 F.; or if there is high bodily temperature, about 90 F., while cold water or ice is applied to the head and face; at the same time it will be well to examine the gums, if teething, for possible dental irritation, and if found, which will be only seldom, the gums should be lanced. Next, if good reasons exist for suspecting digestive troubles, and there is no great apparent cerebral congestion, an emetic of ipecac with or without alum; or a hypodermic injection of apomorphia, 1-20 to 1-40 gr. will serve as well. My experience leads me to believe that the dangers of emetics in convulsions, in producing or intensifying cerebral trouble, have been greatly exaggerated, and that they are often indicated, not only as local aids, but as antispasmodics, relaxants, and often calmants and antipyretics, as well as sudorifics and revulsives. If, however, it seems probable that the source of irritation is in the alimentary canal, below the stomach, an enema of warm water with common salt will be in order, and, as soon as possible, a cathartic of calomel, ipecac, and bicarbonate of soda may be given, to be followed in four hours by castor-oil and turpentin—or if in haste, a saline. If the child is in a paroxysm when we enter the chamber, besides the remedies already mentioned, and indeed as a first remedy to "break the spasm," chloroform inhalation will be proper.

After these preliminaries, our next best resources are in the administration of the bromids, and some-

times chloral, ether per os or per rectum; they may be given separately or combined, when both are indicated, as they often will be. My preference has generally been for sodium or potassium bromid 5i, chloral hydrate gr. iii to v, according to age, given in solutions per rectum. In some well-chosen cases, without cerebral congestion, and when there is great pain, a prompt hypodermic injection of morphia and atropia will yield good results in calming the nervous excitation, but demands great discrimination in its employment, especially in very young infants.

In what Smith and some others call "sympathetic" convulsions, i. e., those occurring from some acute disease, outside the cerebrum or central nervous system, opium in some form is often very useful in quieting the nervous excitement. Happily such heroic measures as venesection, blisters, and severe counterirritation to the surface of the body of infants to "break spasms" have long since become obsolete; nevertheless we occasionally see cases of convulsions where venesection might serve us as well, and it is a question with some of us older physicians, whether the pendulum in venesection in children has not swung too far in the opposite direction. If there is high temperature, antipyretics and cool sponging, or the "pack" are always indicated. However, after the paroxysms have been controlled, the remedies should be addressed to the removal and prevention of the exciting cause, and later also to the predisposing conditions, as far as possible. This means especial attention to details of diet, hygiene, etc., which so often contribute largely, if not wholly, to the production of these convulsions. The bromids should generally be continued for some time after the paroxysms cease, in order to prevent their recurrence, as well as to remedy the results often left on the nervous centers. It is well known that one convulsion predisposes to another, and sometimes a series ending in epilepsy, which so closely resembles eclampsia in its clinical symptoms and objective features.

If the convulsions are found to be what some of our authors denominate "symptomatic," though always "symptomatic"—but especially of brain lesions—or "sympathetic" of affections other than cerebral disorders, the management will be properly addressed to those pathologic systemic affections, the discussion of which can not come within the limited scope of this paper; and although admitted that laryngospasms of infants are so closely connected with general spasms, I have not deemed it wise to attempt their discussion in this paper.

If it be a fact, and it doubtless is so, that some cases of convulsions require depletion, others repletion, others evacuants only; others antispasmodics and calmants only, while still others demand refrigerants and revulsives, how very much discrimination is demanded in the treatment of an affection, which, be it remembered, is always only a symptom—though often a dangerous one—of so many diverse conditions, either temporary—i. e., functional—or permanent (organic); also what demand for ready, cool and prompt action.

Impressed, as I have been, with these suggestions, it has been my method to emphasize to my class the importance of always having with them when becoming practitioners, something like an emergency outfit for the prompt management of convulsions, during and between paroxysms. The first and most important of this will be clear, cool, and ready intelligence. Then the armamentarium should include chloroform, bromids, chloral, ipecac, apomorphia, a good hypodermic syringe —in good order—with proper tablets of morphia, atropin, hyoscyamin hydrobromate, a good fountain syringe, and a stomach-tube, fever thermometer and catheter, as it may be in the night and some distance from a drug store, when and where the physician is called in these emergencies; hence the necessity of being always ready for prompt action.

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DISCUSSION.

DR. A. C. COTTON, Chicago—The last sentence of this extremely interesting paper aroused in my recollection a series of observations along a line which has particularly interested me during the past five or six years. A year ago, at the meeting of this Section in Denver, I read a paper on the subject of "Disturbed Lactation, Some Causes and Effects." Among some of the effects I called attention to not infrequent attacks of convulsions, apparently as a result of discontinuance of lactation. During the last year I have concentrated my attention somewhat more closely along this line of observation, and among all the causes assigned in the able paper just read for the production of convulsions, it seems to me that food plays the most important part. Errors in diet, arrest of digestion, imperfect assimilation, with the consequent evolution of ptomains which produce intoxication of the nerve-centers, whether by reflexes from chemical irritation in the alimentary tract, or from pressure of gases in the bowel—all excite the nervous system, and cause convulsions; but I believe that dietetic errors and imperfect digestion are the most frequent exciting causes of convulsive seizures. My attention has been called more particularly to convulsive seizures in infants at the breast. There the supposition is that there is not so much liability to dietetic errors as in artificially fed infants, but some careful observations on that point will satisfy you, I think, that very frequently the quality of the milk secreted in otherwise normal mammary glands is subject to sudden and very positive changes, not only in the grosser aspects, but in its chemical reactions. Mental influences, hygienic influences, climatic, thermic and many other influences will induce a change in the quality of the mother's milk. From the recorded observations it would appear that the most pronounced causes are those which affect the emotions—the psychic influences. In my paper of a year ago I alluded to the effect of poisons on a nursing woman. In at least seventy-two cases, the opportunities for observation were especially favorable, and these received my most careful attention. I reported fifty-one cases one year ago. Since then my attention has been called to a number more. Careful scrutiny, I think, will show that not infrequently undue, unusual, or excessive coitus on the part of the nursing woman will suddenly and remarkably affect the quality of the milk, and produce a marked disturbance in the nursling, which is very commonly manifested by convulsions, and occasionally, even by death.

DR. KIMBALL of Indiana—The etiologic factors which enter into these cases are perhaps generally understood by the profession, but how to manage such cases is a problem of much interest, at least to me. Of all the exciting causes, I have found indigestion, or the toxins arising in the alimentary tract the most common. I recall one case in which there was not only the usual convulsion, but the forearms were flexed on the arms and the hands on the forearms, and associated with this was a peculiar distortion of the face. Although the mother said that the child had not eaten anything out of the way, I administered a calomel purge. The next day, on visiting the patient, a child of 4 years, it was looking considerably better. The mother then told me that the child had evacuated nearly a tea-cup of beans. I recall another case in which every time the child ate peanuts it was necessary to call on me. In the treatment of these cases I have derived especial satisfaction from the administration of gelsemium. Its action is, of course, on the cerebrospinal centers. It seems to control the convulsion more quickly than anything else I have used, and it is easily given.

DR. COTTON—Don't you think the calomel purge is better than the gelsemium?

DR. KIMBALL—Yes, but I have often found that while the calomel was acting the gelsemium proved useful by calming the cerebrospinal system.

DR. EWING, Salt Lake City, Utah—Aside from the causes which have been enumerated, and especially the overfeeding of children, I find, in male subjects, that a most frequent cause of spasms is an adherent prepuce. I usually examine the prepuce in cases of convulsions, and I have found that by remedying this many cures could be affected. It is my custom to wash out the bowel with about half a gallon of water, and also

to give a calomel purge instead of simply treating the fever.

DR. J. A. WORK, Elkhart, Ind.—Every effect has its cause, and hence when convulsions are present we should look for the cause of the pathologic condition. I believe if we are careful we can usually ascertain the cause, and then it is a comparatively easy matter to remove it. I remember, about twenty years ago, treating a very severe case of convulsions in a child about ten months old. The next day we found in the stools a small piece of corn-cob, and the next day a small piece of fish.

DR. FOSTER of Illinois—It seems to me that in the enumeration of these etiologic factors we should go just a little further and try to find out whether there is a stimulation of the nerve-cells of the brain, especially the motor areas, or whether there is a depression of these areas. What is the pathologic process which is taking place in the nerve-cells of the brain? That is what we wish to know. Some physicians give stimulants; others give bromids with chloral. To determine which treatment is proper we should know what is the process to which these nerve-cells are subjected. There is a clonic convulsion present. In the majority of cases, I think, instead of the nerve-cells being stimulated they are depressed, and their normal tone lowered. This indicates the line of treatment to be followed.

DR. E. E. MAYER, Pittsburg, Pa.—This reminds me of Fleschig's theory of the association fibers of the brain, which he claims govern the projection fibers and thus exercise an inhibitory influence on the motor zones. In children these fibers are not developed, and hence the cortical cells in childhood are easily excited. Whether his hypothesis is correct, I can not say, but it is certain that the inhibitory power of a child's brain is much less than that of an adult. Nothnagel's epileptic center in the pons may also aid in the production of convulsions.

One fact must be remembered before everything else. Convulsions are only a symptom. No diagnosis is made by saying a child has convulsions, any more than if you say a child has pain. What causes the convulsions, to what disease is it due? What has excited the cortical irritation?

All the previous speakers have spoken of the convulsions due to reflex causes, to poisons in the blood, to infection etc., but no one has emphasized convulsions due to organic brain disease. Convulsions are often the first symptom of brain disease, and, until other pronounced symptoms are forthcoming, the physician does not think of brain tumor, brain abscess, etc. A convulsion is also often the first sign of a future epilepsy.

Treatment then, can only be successful if the cause is found and the exciting factor removed. To check the convulsion I give chloroform, and then at my leisure search for the cause and treat it. No matter what the cause is, bromids in doses of 2 to 5 grains are advisable to allay cortical irritation.

DR. FOSTER of Illinois—Will not the same stimulation in the nerve-cells of the child produce the same result as in the nerve-cells of the adult brain?

DR. ROSA ENGELMAN—From the very fact that anatomic studies of the brain of the child show lack of development it is easy to account for all forms of convulsions, whether toxic, reflex or what not.

DR. C. G. SLAGLE, Minneapolis, Minn.—This is a large subject, and one which can not be satisfactorily treated in one paper, but I am glad that it has elicited such a full discussion, and I thank you for it. I hope Dr. Cotton will pursue his interesting investigations further. I am sorry that I did not have time to discuss the treatment fully. To check the spasm, the best method is the inhalation of chloroform. It is also useful to give an enema of salt water, both to produce an evacuation of the bowel, and because of its revulsive effect. It is also desirable in many cases to give an emetic, particularly in those cases in which from the history it seems probable that the undigested food has not passed beyond the stomach. I think I get just as good results from enemas of salt water as from enemas containing bromids. The adherent prepuce is certainly a contributory cause, but I doubt if it is an exciting cause. It is true that we must search for the cause, but for the immediate needs we can satisfactorily control the convulsion with chloroform as I have said.

### Lanolin in Reduction of Enlarged Glands.

A. C. Frickenhaus *(Monatshefte fur Prakt. Dermatol.)* reports the rapid reduction in size of enlarged glands after inunction with lanolin. The axillary glands were enlarged and painful, following recurring furunculosis of the trunk; and thorough application of lanolin over the enlarged glands was followed by diminution in their size and marked lessening of pain. Similar results were obtained in a case of angina tonsillaris, accompanied by enlargement of the tonsils and pain on swallowing.

## CONCERNING THE COMPLICATIONS OF ACUTE OTITIS MEDIA PURULENTA.*

BY E. S. ALLEN, M.D.
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The subject is given as above out of deference to the ordinary dictum. It would be more correct to use the expression: "Serious and fatal forms of acute otitis," rather than "complications." The attempt will be made to show that we have to do with a distinct variety of otitis rather than with complications following the ordinary middle-ear suppurations, that dangerous and fatal meningeal trouble in connection with acute middle-ear suppuration represents a distinct type of infective inflammation. Acute otitis media is caused by germ infection reaching the tympanic cavity, in nearly all cases through the Eustachian tube. Infection by means of the blood and lymph vessels is possible, but difficult to prove. Auto-infection probably does not take place, as under normal conditions the middle ear is probably free from germs. The character of the resulting inflammation depends on the relation between two factors—the virulence of the organisms and the resistance of the tissues, the same organisms producing in one case a virulent suppuration and in others but a purely serous or mucous exudation. At an early stage, i. e., before perforation, it is generally impossible to diagnose between a severe catarrhal inflammation and an acute suppuration. In acute exudative otitis media we generally see a bulging of the drum membrane, indicating that the secretion is accumulating under pressure. This can be only, and it is extremely pertinent to the subject under consideration, because the swelling of the mucous membrane has shut off the entrance into attic or antrum and confined the exudate to the tympanic cavity proper. Secretion accumulating in the middle ear under pressure is generally non-purulent or but slightly purulent, the pressure preventing the exudation of leucocytes. This we know from the fact that nearly always when we make a paracentesis the exudate that first appears is not purulent and that a certain time elapses before free suppuration sets in. The suppuration coming on in a few hours or next day is not due to the infection of the cavity after paracentesis, but is due to the relief of the pressure. We can easily open the drum cavity without injecting it. A similar occurrence takes place probably when perforation occurs spontaneously. The acute cases may end in one of four ways:

1. Everything being favorable, and no secondary infection taking place, the suppuration gradually ceases and recovery occurs.

2. In neglected cases a chronic otorrhea is established.

3. At other times after a varying period, generally while the suppuration is still profuse, the mastoid cells become involved in a pronounced way.

4. On other and not too seldom occasions we get no decisive mastoid or other symptoms, but at a time varying from a few days to several months from the onset of the ear symptoms, meningitis, pyemia, and symptoms of thrombosis or abscess set in.

I have purposely separated 3 and 4 because while brain symptoms may arise in neglected cases of mastoid involvement, still, ordinarily brain symptoms occur without the general free mastoid suppuration and necrosis which we see in ordinary mastoiditis. It is this fourth variety of acute inflammatory ear trouble which I desire to discuss. Can these serious or fatal conditions be

*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

avoided? Is there any method of treatment of an otitis seen early which will prevent such occurrences? These are questions of the greatest import to us all. If, as we once looked on the disease, the infection primarily attacked the tympanic cavity and then extended by continuity of surface to the attic, antrum and cells and through the bone into meninges, vigorous treatment, early paracentesis, etc., ought, by getting rid of the dangerous matter in the tympanum, to avoid the complications.

It would appear that these serious complications are not the result of a transference of the infection by continuity of mucous membrane, but rather the result of a special manner of infection, a peculiar deep-seated germ activity. In other words, grave complications do not result from the filling up of the cavities with pus and then a sort of pressure necrosis of the bone following, but are caused by a distinct method of infection where the organisms are deeper-seated and bring about carious destruction at points remote from the tympanic cavity and, perhaps, in fact generally, with little concomitant exudation from the vessels of the mucous membrane.

Is it not possible that these are the cases either infected primarily through the vessels or where the germs are taken up early by them and carried to other portions of the bone and lead to caries, perforation and the meningeal trouble?

When the infection reaches the mucous membrane, from its surface, and remains superficial we get a great outpouring of pus and now and then mastoid involvement, but the diagnosis of such a complication is generally easily made and with prompt operative interference a fatal termination is exceedingly rare. This is a true complication and is not to be looked on as particularly dangerous. My records show four deaths from meningitis and one unexpected recovery after severe pyemia. In all these cases the suppuration was not profuse and there was a free perforation, in one a complete destruction of the lower portion of the drum, so that there could be no question of dammed up secretion. The cases were all operated on after meningeal symptoms had set in, and but little disease of mastoid cells or antrum encountered, a little pus and granulations, but nothing like what we ordinarily find in acute mastoiditis. In the four fatal cases the post-mortem plainly showed the carious break, but there was no accumulation of pus in the antrum or cells and but little in the tympanic cavity. These parts were not in perfect condition, in one, absolutely nothing in the tympanic cavity.

In a rather superficial search through the literature of meningeal cases I also mark the fact that a free drum perforation existed or was made early, that free drainage either was present or that the inflammation in the tympanic cavity was so slight as not to cause much exudation. Hence the view advocated, that these dangerous and fatal cases are caused by a special kind of deep-seated infection. When the conditions are such that the infective organisms are taken up by the vessels and carried to the bone or deeper portions of the mucous membrane, and to parts distant from the drum cavity, we are powerless to ward off the inevitable result. We are surely not justified in operating on every case of acute otitis where there is pain and headache, or slight mastoid pain and tenderness, because a vast majority of such cases get well without. These were the only premonitory symptoms present in the cases which have come under my observation.

About one year ago an anemic young girl presented herself with the history of an otorrhea of two weeks' duration. The discharge was not very profuse. There was a perforation in the lower posterior quadrant, which was entirely filled by a granulation springing from the tympanic cavity. The mastoid was not red nor edematous, but very sensitive to pressure, and the headache and pain in and back of the ear such as to prevent sleep. Temperature was 99.6 degrees. I touched the granulation with chromic acid and packed the meatus with gauze. She continued to suffer for a week, when she appeared again, presenting precisely the same appearances. I warned her of her danger, but she decided to wait a while longer, and in three weeks she came back perfectly well; drum perforation closed; canal dry; no pain nor tenderness. Our case-books are full of such records. Another patient comes with a slight discharge of recent origin, free perforation. Some pain, headache and perhaps slight fever; mastoid tenderness. This condition continues with intermissions for one, two or three weeks, or longer, when one is called to find pronounced symptoms of meningeal trouble. The violent secretory type of acute otitis has in my experience never given rise to anything beyond a mastoiditis. Of course, if mastoid cases are neglected we may get a perforation into the brain, but ordinary mastoid cases are now seldom neglected. It is the miserable, indefinite, slight cases of otitis media with no pronounced symptoms of any kind that have given me trouble, and the histories consulted show this to be a general rule. Such must be due to a deep infection and are totally different from cases where the organisms remain on or in the upper portion of the mucous membrane, where they cause a profuse suppuration and perhaps involvement of the mastoid, but never the insidious acute caries leading to perforation into the meninges. Necrosis and breaking down of the septa between the mastoid cells must occur with every severe inflammation of the mucous membrane covering these thin lamellæ of bone, but it is not similar to the caries which leads to perforation into the meninges.

Rarely these two kinds are associated. A case in point occurred in the hospital practice of Dr. Thorner and myself. Here there was an acute profuse suppuration followed by acute mastoiditis. Dr. Thorner performed the usual operation and leaving the service soon after, left the case in my charge. Everything went well for a time, discharge from the tympanum ceased, perforation in the drum closed and the mastoid wound was granulating nicely. About four weeks after the operation a swelling developed in the occipital region, 1½ inches back from the operation wound. This was incised and a little pus evacuated. Five days thereafter the patient developed meningitis and died.

The post-mortem showed the tympanic cavity dry; operation opening in good condition. There was no connection between the wound and the small abscess over the occipital region. There was a carious break on the anterior surface of the pyramid, just above the tegmen tympani, and from this opening the meninges had been affected. Here the infection must have been carried by the vessels to these remote parts and the operator was absolutely unable to prevent it. I believe infection of this kind occurs in the vast majority of fatal cases, and that we are powerless to ward off the brain affection.

Right here it might be well to discuss the question of early paracentesis. Does this procedure tend to prevent dangerous symptoms? In the cases here spoken of, perforation occurred early and spontaneously and, moreover, the suppuration was not profuse, and this is the general history of such cases. Paracentesis can have no place in cases which rupture early and in which the sup-

puration is slight, and such cases are the dangerous ones. We are taught that paracentesis is indicated where there is bulging of the drum, and this bulging means that the exudate is confined to the drum cavity proper, a condition in which there is little danger of serious trouble. In such cases also the vessels are pressed upon and the danger of absorption and transference of infection must be lessened, just as in acute pneumonia we get no absorption of the exudate in the alveoli until the mass softens down and the lymph-channels open up. Here also paracentesis can be of little saving value. Paracentesis does often shorten the duration of an acute inflammation, it also often prolongs it by allowing the establishment of free suppuration. Hence, I believe that we are justified in putting off paracentesis just as long as possible. Of course, if the pain can not be relieved by other measures, we must resort to it, but if pain can be controlled we need not feel obliged to open the drum for fear dangerous complications may arise.

As to early mastoid operation, here we meet with the greatest difficulty in deciding for or against operation. Free mastoid suppuration, such as results from extension of infection from the tympanic cavity to the cells, almost always gives rise to conditions such that he who runs may read. Here the indications for operation are plain. In the dangerous forms of deep infection, mastoid and other symptoms are slight, and we must be in doubt as to the advisability of operating. Nor can I look on early operating on the mastoid as a means of avoiding trouble. The deep-seated carious spot we can expect to run across only by rare good luck, and why this caries, if not reached, could be benefited by a free mastoid opening, is hard to see. Operation when brain symptoms have already occurred may do good. I am speaking only of the effect of operation in voiding off the meningeal symptoms. As far as my own experience teaches, I feel that we are altogether at the mercy of the disease and can only hope that the meningeal infection will be about the sinus and lead to thrombosis or abscess, and not to immediate meningitis. Fortunately, deep-seated infection and acute caries as the result is of rare occurrence, and it is Nature whom we have to thank rather than any preventive therapeutic measures which we can institute.

DISCUSSION.

DR. C. R. HOLMES, Cincinnati, Ohio—In a general way I wish to say that I agree with the utterances of Dr. Allen. With regard to when we shall operate and when we shall not operate, it is sometimes rather difficult to determine. It is only very recently that that was taught me as on other occasions. A young man recovering from la grippe came to me with the statement that he had had it four weeks and had been treated by the family physician. Tenderness was present. We should not wish to operate on every case we meet, and I told him that perhaps he could be spared an operation. I advised the use of hot douches. I wish to say here that I never use ice; I long ago abandoned the use of it in acute inflammation of the ear. In three or four days the case seemed to be cured. A few days later the patient came back with a little increase of tenderness, and so the case continued for four weeks. The patient then came in with the tenderness so marked that we had to operate. Although the disease had only existed eight weeks, a most extensive operation was necessary. So we had better err on the side of too early operation rather than too late. I regard the exploratory part of the mastoid operation as perfectly safe, outside of the anesthetic. We may sometimes be misled in specific cases. Fortunately syphilis does not localize itself very often in the mastoid, but I had one case which also seemed to get better and worse. There were no other symptoms of syphilis. On opening the mastoid I thought we had to deal with a sarcomatous mass. I curetted and then, to make sure, gave iodid of potassium, and the case cleared up beautifully. It was a case of syphilis, which is rather rare. We also sometimes have death resulting, not because we have caused infection, but because the infection has existed at the time the patient comes under observation. I have two such cases on my records in which the patients came in with high temperature and chills and everything pointing to infection of the brain. I made the radical operation and then waited a day and a half, and, the symptoms continuing, I trephined and found a general meningitis. The case that I call to mind was so extensive that the patient died. Once in a while we lose our patients, even if we operate, because infection of the brain has taken place before we operate. But I believe infection seldom takes place after the operation; that is very rare.

DR. IRWIN—I had, within the past year, an exceedingly interesting case of complication of acute otitis media, of which possibly many of you have noticed a report in the JOURNAL of January or February. It will be necessary to give you a little of the history of the case. A girl came to me, at this time only 8 years old. She had had an otitis media when about three months old, and recurring more or less frequently during the following five years. About three years ago she came for treatment, and after three or four months she seemed to be entirely cured. There was no further disease of the ears for about two years. A year ago last May she took the measles and a few days later an acute otitis media appeared, first in the left ear and a week or so later in the right. There was an old perforation of the tympanum of the right ear, which had never closed. The other ear had closed two years before, when I treated her. The peculiar complications in the case, though, are what I wish to call your attention to. There was some general headache and considerable pain attending the acute attacks in each ear, which lasted a few days only, and an early opening of the drum-head allowed free evacuation of pus. After a week or more the inflammation and some little attending fever disappeared. There was at no time any evidence of mastoid disease, nor had there been during her former attack of the disease. About the second week of the attack of ear disease she was taken suddenly every evening about bedtime, with a peculiar condition that I would hardly know a term to express. She appeared to simply quit breathing, the heart was almost quiet, and still she was conscious. She would remain in that condition for about five minutes. Then she would come out from the condition and go to sleep.

There is one other complication that I want to speak of. About the third week of the disease she developed at first dual and later triple personality, and finally five different personalities, and she continues still to manifest those different personalities. She would awaken in the morning, herself, and in an hour or so change to another girl of about half the age. She would then know nothing of the occurrence or associations or acquaintances of her present age. She would pass over in an hour, or perhaps a few hours afterward, to the third personality, which represented a little girl 1 year of age. I would like to ask of this ASSOCIATION whether this was really a brain complication of the original acute inflammation of the ear without mastoid disease, or was it simply a nervous manifestation developed in consequence of the disease?

DR. L. C. CLINE, Indianapolis, Ind.—I wish to congratulate the Doctor on his short and precise paper. In this connection I would like to mention two cases that came under my observation, in which there was great tenderness over the mastoid and great pain in the middle ear, that followed la grippe. One of the cases in particular suffered great pain all of one night, and I was thinking I would have to do a mastoid operation. I did a paracentesis in both cases and they were instantly relieved.

DR. J. A. STUCKY, Lexington, Ky.—I fully agree in the main with the paper by Dr. Allen, but I can see no reason why we should not do an early paracentesis if there is bulging of the membrane, and if there is much pain. I believe, with Dr. Holmes, that if we are careful in cleansing the canal, there will be no danger of further infection. If we have bulging and much pain, there is already some infection. I agree with Dr. Holmes regarding the use of cold in these cases. There are two old remedies that I have been using the last two or three years with much success. One is the counterirritation produced by tincture of iodin painted over the mastoid process, which does often relieve the pain. I do not use the leech. The other is salicylate of soda, in 10-gr. doses, to relieve the pain. This is superior to opium.

DR. GEO. L. RICHARDS, Fall River, Mass.—I have had some experience in line with what Dr. Stucky has said. But I am still using cold. I recall a case of acute otitis media with mastoid pain, in which I made a paracentesis, put in a gauze wick drainage and had it changed as often as it was soaked through. A Leiter coil was placed over the mastoid, and in thirty-six hours the pain ceased. If we can get good drainage there is no danger from paracentesis. And the gauze wick

drainage will remove the discharge, acting just like the wick in the lamp. I have had two cases of a similar character during the past winter, in each of which free paracentesis with gauze wick drainage and the cold Leiter coil over the mastoid aborted a beginning mastoid inflammation.

DR. B. ALEXANDER RANDALL, Philadelphia—I am sorry I have not heard the entire paper, as I was late in arriving, and may speak on some matters aside from the direct question. There are some points I have made so frequently that I am almost ashamed to reiterate them; but at the same time they may need reiteration. The knowledge of the anatomy of the parts is important, and I want to make a protest against the phrase "mastoid antrum." If we drop the term "mastoid" we will make an advance, because it is the *tympanic* antrum. The sooner we fully accept this the sooner will we cease to misunderstand many of the complications.

The general question of what we shall do in these serious cases is one that will always test the expert to the utmost, and all who have had any considerable experience know that we have frequently been misled, and it is only by the widest experience that we can hope to come to the facts of the case in the great majority of instances. We can do much good if we watch our cases and treat them properly; but I get a little out of patience with the reports of this or that case of mastoid disease, that got well without operation because this or that was done. There are a large number of cases that do not need operation. If we use either hot or cold applications, we can clear up many of them, and not only mastoid cases but those in which the complications are exceedingly serious and threatening. I remember one case I was called to at midnight, to find all ready for opening the cranium, and one of my neurologic friends was "tearing his hair" to determine *where* a trephining was to be done. The patient had been paralyzed on one side and convulsed on the other all day, and the case was apparently a very serious one. I was asked to look at the eyes for localizing symptoms, and I insisted on looking at the ears first, especially as he had had previous otorrhea. I let out the fluid that was there, serous apparently, and the twitchings at once ceased. I put in a syringe and it took two nurses to hold the arm and leg that had been paralyzed, while I washed the ear out.

So these cases may puzzle the best of neurologists and be promptly relieved by proper treatment, or even without it. The importance of paracentesis in these cases is greatly overrated. We should not omit to do it or any other thing that appears the right thing, even if only to satisfy the wise critics who know all about what you ought to have done in the cases which they never saw. But that paracentesis or any other procedure will cure all of these cases is beyond possibility, and those who make such claims only stultify themselves.

DR. CHAS. H. BAKER, Bay City, Mich.—Dr. Allen suggested that in the ordinary type of the acute cases, in which the swelling came on promptly and the symptoms were fulminating, as perhaps I might express it, the merest tyro could by operation relieve those cases and recovery was the rule. The only fatal case of mastoid operation I ever had—and I consider myself lucky to have had only one out of a comparatively large number—was of that kind. And I would like if the more experienced operators here could give me the cause of death in that case. The patient had had an ordinary attack of la grippe, and at the time of my first visit mastoid inflammation had lasted perhaps a week or ten days. The temperature was 102.5 F., the pulse was accelerated and there was swelling over the mastoid. It was a typical acute mastoiditis. The operation was simple. No necrosis of the mastoid bone proper was found. As is usual in that class of cases, the patient's symptoms all improved following the operation, the temperature went down to normal, the pulse became practically normal, the pain in the head entirely ceased, and the patient's condition in every way seemed better. That condition lasted for thirty-six hours after operation. There had been no cerebral symptoms. About noon of the second day there was vomiting. The family physician was called at 6 o'clock and found the patient still vomiting, and that night the patient died. I did not get an autopsy and I have been unable to determine the cause of the fatal result.

DR. C. F. THEISON, Albany, N. Y.—I agree most thoroughly with Dr. Allen's remarks. I rarely have complications in acute otitis media. I most seriously believe, however, in early paracentesis. I believe that if paracentesis is done as soon as bulging of the drum membrane is noticed, complications will often be avoided.

DR. S. E. ALLEN, Cincinnati, Ohio—I brought up this subject chiefly to determine the position of the otologists as to what could be done to prevent these serious complications. The general practitioner, when he sends the case to you early, just as soon as the patient complains of pain, does not expect that patient to die on your hands. Now, they do die on your hands even when you see them in the very beginning. I used to think that when a patient died in the hands of the otologist when he saw the case early, the fault was with the otologist, but I believe now that it depends on deep-seated infection, an infection taken up by the blood-vessels early, and that the acute caries starts up from the beginning of the disease, no symptoms of the acute caries arising until meningitis, thrombus or abscess occurs. I may state also that in the cases spoken of the inflammation in the middle ear was more or less slight and the drum perforation occurred in a day or two from the onset, and there was but little to indicate anything serious until the fatal symptoms occurred.

As to the treatment of these cases, I believe thoroughly in hot applications, and use them in almost every kind of acute inflammation.

Speaking of early paracentesis, an acute middle-ear inflammation is caused by micro-organisms which excite an exudate there. In the start the exudate is always serous or mucous. We know that when we make a paracentesis for a few hours we do not get pus; pus only begins to come out afterward, and that fact I ascribe to the relief of the pressure. If paracentesis can be avoided, much is often gained. As to the whole mastoid being involved at once, I don't see how we can get pressure and bulging of the drum unless the exudate is accumulating under some pressure. I couldn't believe there could be this pressure on the drum unless the tympanic cavity was cut off from the attic or antrum. Therefore the cases which call for early paracentesis are the very ones that will probably give us the least trouble.

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# ENZYMES IN THE TREATMENT OF NASAL POLYPI, ANGIOMA OF THE NOSE, AND CHRONIC OTITIS.*

BY TALBOT R. CHAMBERS, M.D.

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Nasal polyps, as has been so succinctly shown by Jonathan Wright[1] of Brooklyn, are so-called because of their pedunculated form, and are usually simply an expression of overnutrition of the part; a coincidence with chronic catarrh, and secondarily arising from the inflammatory condition of subjacent periosteum.

A myxomatous polyp, Wright calls "an edematous polyp," because it is a mucous membrane infiltrated and hypertrophied by the encapsulation in fibrous meshes of a more or less fluid mucous secretion. It has varying attenuations, sometimes even being quite firm and resisting. After speaking of the stroma, epithelium, fluid contents, glands and nerves, he says: Blood-vessels are scanty and capillary in size." But these blood-vessels have great importance, and bleed most freely under certain conditions. I will never forget my experience with a patient from whom I had snared, imperfectly perhaps, under eucain, when that deceiving drug was first introduced. The hemorrhage was simply appalling, and recurred in the night. Under cocain, a few days later, a complete and satisfactory enucleation of all the polyps, even removing the splinter of bone from which the polyp had sprung, was accomplished without any alarming symptoms at all. The edematous polyp of Wright then, is readily and easily removed, and, if its seat of origin be at the same time removed and the nasal cavity be kept in a non-catarrhal condition, a perfect and complete cure results.

Quite different is the history of angioma. When one has fairly good cause to believe all the tumor has been removed, he sooner or later finds recurrence, or that his operation was incomplete. This it is that makes one

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[1] Am. Text-book of Eye, Ear, Nose and Throat, p. 1076.

feel quite serious when the best authorities state that a mixed angioma, i. e., an angioma with much intracellular contents, occurs, that it had better be left alone, because, on its recurrence, it is apt to take on a malignant type. As in the case of the edematous polyp, the nasal mucosa, where angioma exists, is far from normal. In some parts of the nasal chambers—some authorities notwithstanding—it may be hypertrophied and in others atrophied. Angioma has not a small but generally a broad pedicle with involvement quite diffuse at the base. Whether the pedicle be small or large, when it is removed, there is more or less diseased tissue left. The frequent regrowth of polyps after removal is humiliating to the operator, and discouraging to the patient. Besides, the persistence of these "rag-tags" is one cause for the continuance of hemorrhage after operation.

Pepsin was proposed some years ago for the cure of otorrhea, and several observers have written on it. Dr. Cohen-Kysper of Hamburg reported 100 cures out of 150 double deafness cases, by the injecting of hog pepsin or papayotin about the stapedial articulation. I have not had his happy results in that particular pathologic condition, though I am trying this method by means of enzymol. This is a pure solution of a proteolytic enzyme prepared by a direct extraction from the peptic glands of the fresh pig's stomach, slightly acidulated, and, when diluted with equal parts of water, has about the percentage of hydrochloric acid, characteristic of gastric juice. It is a stable compound under ordinary conditions, and is to be diluted with an equal volume of water. If warm its value is said to be enhanced, though I have generally used it at the temperature of the air.

All kinds of chemicals, alcohol, salts, acids, alkalies, powders and oils have been heretofore employed, and sometimes with brilliant results, but alas generally with tedious treatment, and not infrequently with unsuccessful result, sometimes with damaging effect. I hold that if a treatment is offered without these varying minerals, it is to be preferred. Nothing could be simpler than gastric juice. It is the least harmful, and in my experience the most gratifying. It is the function of gastric juice to break down organic dead matter. It will fulfil its mission outside of, as well as in, the stomach. Besides, it fails to attack healthy parts. Thus it acts on the eye, ear, nose and throat mucous surfaces without detriment to the normal parts, digesting and dissolving sloughs, granulations and detritus. I have used it extensively in private and hospital practice. In acute and chronic suppurative otitis media, and in two cases of persistent suppuration after mastoid operation, it abruptly stopped discharge, with but two or three days' treatment. After removal of polyps of the auditory canal and in morbid conditions of the mucosa of the nasal chambers where extensive exfoliations of bone had occurred, it supplanted the peroxid treatment at the desire of the patient, whose daily attentions to his diseased parts became very much lessened and more satisfactory. In a case of sloughing ulcer of the cornea it acted very happily.

In dispensary practice, my assistants, who formerly were glad to graduate out of the ear-cleaning class, now do not object to the work, because the old familiar chronic otorrheas which had been treated regularly at every clinic show such unmistakable improvement. This improvement has varied according to the thoroughness with which the treatment has been carried out at home. We can now extend to almost hopeless cases an immediate relief in diminution of discharge and of consequent symptoms, with a guarantee of cure. The patient is given a small bottle of the preparation diluted with equal parts of water and directed to instil five drops after thoroughly syringing with pure warm water and drying out as well as possible. The more intelligent patients insert a pencil made of twisted absorbent cotton soaked in the solution. After syringing, this is employed t. i. d. Dispensary work has become less of a drudgery since adopting this treatment.

M. C., aged 7, with subacute suppurative otitis media, after one month's daily treatment by the cleansing with water and peroxid and applications of argenti nitras, etc., was somewhat improved. A large polyp which I had cauterized with chromic acid proved refractory. Two days after employing the enzyme, the ear came to a state of rest. Discharge ceased and the polyp disappeared. The same patient had chronic otitis media, suppurativa left, of four years' standing. This ear had a polyp occluding the auditory canal. After two or three days' treatment with the cotton pencil soaked in enzymol, the polyp had also disappeared and the discharge was greatly diminished. In this ear the treatment was continued for six weeks. If omitted for three days, a little mucoid discharge was found on cotton introduced. Finally, all discharge ceased and the granular surface came to a state of rest. This patient was deaf in both ears and unable to attend school. She now has nearly normal hearing to the watch in each ear and goes to school.

In Rev. T. W. J., aged 35, otitis media, purulent, with profuse suppuration in one ear since childhood, two weeks' use of the above brought the discharge down to nothing, and in H. D. W., from hard contact to 12-40ths.

Where the disease has been active for years, improvement is marked. In less chronic cases cure is immediate and positive. In H. T. P., aged 35, with a very sensitive polyp in one ear, impossible of extraction under cocain, and the patient declining ether narcosis, the above preparation ate up the polyp and freed the canal of discharge.

Finally, the great charm of this treatment is shown in the case of H. T. P., who also had an edematous polyp of the left nostril, which was entirely—so supposed—snared out. One year later it returned and was again snared out with complete relief of symptoms. But this time he frequently used a spray of this diluted, and the chances are that there will be no return of his polyp. Among all the agencies as a means of cure, this is not merely theoretic, but by far the most scientific, practical and efficient.

DISCUSSION.

DR. J. E. SHEPPARD, Brooklyn, N. Y.—I have used enzymol more or less, not in dilute form as the Doctor speaks of, but as it comes to us in full strength. In my experience with it I have not seen any marked effect from it on tissue that still retains its vitality, but it has acted favorably on necrotic tissues of all kinds in the ear work in which I have used it.

DR. J. A. STUCKY, Lexington, Ky.—I am intensely interested in the subject of the paper. I did not quite catch the essayist's method of using enzymol in the nasal cavity, and I would like to ask whether he applied it in powder or liquid.

DR. SHEPPARD—It is in solution.

DR. STUCKY—Have you ever used it in full strength?

DR. SHEPPARD—I never used it except diluted with equal parts of water. I do not know anything about its use undiluted.

DR. RICHARDS—I would like the Doctor to state its expense.

DR. CHAMBERS—I have not used enzymol in undiluted form. My experience with it has only been three or four months, but I thought it of sufficient interest to bring before this ASSOCIATION. As to the price, it is sold in bottles that look to me like they would hold three or four ounces, at $3.60 per dozen, that is with the percentage off to the hospital.

# THERAPEUTICS OF KOLA*.

BY CHARLES C. YARBROUGH, M.D.
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In presenting this paper, I do not claim to offer anything strikingly new, but it is my purpose to direct anew your attention for thoughtful consideration to one of the most valuable drugs of our newer materia medica. This drug has been known to the profession of this country now for nearly twenty years, but notwithstanding this fact, its medicinal virtues are not generally known among general practitioners, and few of those who use it fully appreciate its capabilities. The drug to which I refer is kola—the seed, or nut, of *Sterculia acuminata.*

Kola, being, as is now fully established, a general tonic stimulant acting primarily on the cerebrospinal centers, has a wide field of usefulness. Its stimulation is peculiar in that it is tonic in effect and does not leave the secondary depression and "all-gone" feeling which, like the after-effects of the ordinary stimulants, is calculated to gradually develop into an irresistible desire for a continuation of the use of the drug. Thus kola is not a habit-forming drug, a point of inestimable value in its favor. In substantiation of this assertion I will state that although I have made extensive inquiries of physicians located in different parts of the country, many of whom use kola extensively in their practice, I have yet to hear of a "kola fiend."

Mr. James W. T. Knox, who, under the supervision of Prof. A. B. Prescott, of the University of Michigan, devoted more than two years to the investigation of kola, and who has devoted more scientific study to the drug than perhaps any other one man in this country, has this to say relative to the kola habit. I quote from the *Pharmacologist,* Vol. i, No. 2: "The statement is occasionally met with that the continued employment of kola or its preparations as a medicinal agent or light stimulant results in the contraction of a 'habit.' This habit has been described as being either more or less dangerous than the morphin habit—depending considerably on the fertility of the writer's imagination—and its effects on the body and soul have been depicted in a manner well worthy of DeQuincey. My own experience refutes these statements so completely that I feel constrained to relate it. After all, in my own opinion, the kola habit is a myth, the creature of the disordered imagination of some would-be sensational newspaper reporter, and has no other existence."

There are thousands of habitués of stimulant drugs in this country today, in a pitiful and most deplorable condition, the victims of an unconquerable habit dating its commencement from the use of a physician's prescription calling for the drug to which the victim is addicted. Among these may be mentioned as most prominent, the inebriates of alcohol and coca. Being cognizant of this lamentable truth, the physician should hesitate and consider well before prescribing one of these mischievous drugs.

There may be rare cases where the peculiar stimulant effects of either one or both of these drugs are indispensable, but I hold, and I think my position is fully supported by clinical evidence, that the happy stimulation of kola would be highly satisfactory in the great majority of cases where a general stimulant is indicated. This being the case, kola should be one of the most frequently used drugs of the materia medica, for a large percentage of cases treated by the general practitioner are of an asthenic type and call for the use of some supportive and stimulant treatment. Kola is admirably adapted to such a class of cases, for its co-operating tonic action maintains its beneficent stimulation.

The physiologic action of kola is analogous to that of caffein, but, in its fresh state, especially, differs in that it is more pronounced and prolonged. Just why fresh, undried kola should possess such remarkable advantages over the drug in the dry state is not clear, but it seems that a rational and plausible explanation is that the caffein in the former is presented to the system in such a form, dissolved in the natural juices of the drug, that it is readily liberated in a nascent and highly active condition. Whatever may be the true reason therefor, the fact remains that the fresh, undried kola is by far the most effective and preferable. Dr. Le Bon was among the first experimenters to call attention to the superiority of the action of kola in the fresh state, and his assertion that only the fresh drug is capable of producing the remarkable effects that has rendered kola so notable and so highly prized by the natives of the country whence it comes has since been verified time and again. The failure of some physicians to get good results from the use of kola has no doubt been due, in some instances, to the employment of preparations representing the dried drug.

Of the new therapeutic application of kola, where its success has been particularly noteworthy, is its exhibition in the treatment of that obstinate disease of childhood—pertussis. Blocker reports that he has used it in a large number of cases with surprisingly good results—the attack being cut short and the child's condition rapidly improved. How this kindly action of kola in this disease is effected, I will not essay to theorize. However, that its influence has been so grateful in a large number of cases should be an incentive for further trial along this line to the end that its true value in this disorder become established.

In asthma, kola has proved itself to be peculiarly beneficial, relieving many cases, some permanently, where other medicinal agents have failed to give good results.

On the hypothesis that asthma is a true neurosis of the respiratory apparatus, it seems obvious that kola should be of material service in that affection. It must be admitted that there are a variety of causes that will produce an asthmatic condition, but the manifestations of the disease are always nervous in character. Kola has been employed with signal success in some very obstinate cases of asthma, and this fact entitles it to be considered in formulating a treatment for this dyscrasia. At best, asthma is very unsatisfactory to treat, and any drug promising to give prolonged relief to the distress of an asthmatic patient should have a careful trial. There are some forms of asthma where kola, or for that matter any other medicinal treatment, will be useless, for example, those cases due to pressure of tumor on the pneumogastric nerve. Because kola acts well in a number of cases of asthma, it must not be taken for granted that it is a specific for that disease, and, if it fails in some instances, it does not follow that it is valueless in all. This is an axiom that should be applied to all drugs in their respective therapeutic applications.

Kola is a decided diuretic. It acts more energetically on some people than it does on others. In my own experience it has proven to be very prompt and satisfactory as a diuretic, even more so than caffein and digitalis combined. There are indications that strongly suggest some peculiar direct action on the kidney, although its

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action is largely indirect, by increasing the blood-pressure. Being a reliable diuretic, it is highly serviceable in Bright's disease, cardiac and renal dropsies, rheumatic and rheumatoid conditions, and in all cases where a stimulus to diuresis is indicated, and particularly in those cases characterized by atonic conditions.

As a cardiac tonic, it ranks well with digitalis, and, like the latter, as just stated, causes an increase of urine. Kola, unlike digitalis, does not have a cumulative action; hence it is a good substitute for digitalis and may be used wherever the latter is indicated, or the two may be advantageously combined. Kola is, then, of service in cardiac diseases, in cases of shock with collapse, delirium tremens, etc.

Melancholia is another morbid manifestation which is by no means rare in which kola gives admirable results. There have been cases, apparently irremediable, that have been entirely cured by the timely use of kola. The value of kola in this disease is gradually becoming more widely and better known, and, as a result, it is now used in nearly if not all of the leading institutions for the treatment of mental diseases.

In alcoholism and morphinsm, two deplorable conditions, the effects of kola as a stimulant and supportive are of great service in sustaining the system against shock from gradually reducing or interdicting entirely the use of alcohol or morphin, respectively. It is true, the cure of these habits depends largely on moral suasion and a determination on the part of the victim to rid himself of his vice, but, withal, a stimulant whose effects will replace those of the irresistible habit-drug without itself producing a depressed and vitiated condition of the system, is of immense value in tiding the individual through the ordeal of breaking away from the influences to which his system is so accustomed.

Kola is of value in combating and preventing surgical shock. Administered before and after a surgical operation its power of conserving strength and exerting a tonic influence on the nervous system will certainly render the patient less liable to collapse. It has been used by some of our leading surgeons for this purpose and invariably with success.

Uterine inertia, when due to nervous exhaustion or occurring in weakly, debilitated women, has been found to be amenable to the action of kola. Kola is also useful in normal parturition to sustain the strength of the patient and stimulate the uterus to its best action.

The sustaining, strength-conserving power of kola, its characteristic action, makes it then of great importance as a therapeutic agent. It renders it peculiarly applicable to all those conditions where fatigue and exhaustion are imminent. Many physicians take advantage of this property of the drug to sustain themselves through extra and long-continued work, and especially if their duties call for loss of sleep.

### Oxygen as an Antidote for Coal Gas.

Herbert E. Friend's case demonstrates that oxygen is directly curative for coal-gas intoxication. The patient, after lying all night in a room in which gas was escaping, was found in profound coma, pulseless, the eyes open, pupils widely dilated, face and lips dusky, and in a condition of marked opisthotonos. The respiration was shallow and irregular and the heart-sounds hardly audible. Strychnin and digitalis were injected in full doses, and oxygen administered as soon as procured. The relief it gave was the more striking because each interval in its use was followed by a return of urgent symptoms. The muscular spasms subsided in four hours and the conjunctival reflex returned after six hours, though consciousness was not complete until the next day.—*Progressive Medicine, Vol. iii.*

## FLOATING KIDNEY SIMULATING DISEASES OF THE GENITAL ORGANS IN WOMEN.*

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By the division of labor and the increasesd attention which each branch of our art thereby receives, mistakes both in diagnosis and treatment are growing fewer year by year. As far as diseases of women are concerned, the writer believes that 95 per cent. of those who submit to treatment are entirely cured; and even this small percentage of failures would be still further reduced if we could eliminate all errors of diagnosis. Floating kidney is one of those diseases which gives rise to so many symptoms which we have been accustomed to attribute solely to the genital organs, that it is no wonder that its presence has often not been recognized, and the patients suffering from it after having undergone one or more gynecologic operations have continued to suffer and complain as much as ever of those reflex disturbances which we thought depended entirely on a laceration or displacement of the uterus or on some disease of the ovaries or tubes.

Most of the failures to cure women by gynecologic treatment are due to defective diagnosis by the inexperienced or careless, the result being operation for one disease when there are other and more important ones present, many women have been operated on for lacerated cervix only, and have been promised a cure which they did not obtain because they also had endometritis, retroversion with fixation, pus tubes and ovaries, appendicitis and lacerated perineum, and should have had not only an amputation of the cervix, but also a dilatation and curetting, repair of the perineum, removal of tubes and ovaries and vermiform appendix and ventrofixation. Other failures are due to incompetent operating, as when the operator fails to follow Emmet's expressed directions to remove all the scar tissue before sewing up a lacerated cervix. When a complete and thorough diagnosis has been made and all the abnormal conditions present have been remedied by skilful operations and other treatment, the result is satisfactory in almost 100 per cent. of the cases.

There are some failures which occur in the practice of the most experienced specialists which, however, are none the less humiliating to him and disappointing to the patient and her family physician. The two most important causes of these are appendicitis and floating kidney, but the latter topic will be quite sufficient to occupy the time for one paper. We are indebted to Hahn, Landau, Lindner, McCosh, Keen, Senator, Schmidt, and more especially to Noble of Philadelphia and Edebohls of New York for having brought the question so forcibly before us. As the writer has met with quite a number of these cases, in which the displaced kidney produced all the symptoms of diseases of the genital organs while the latter were perfectly healthy, or in which well-defined diseases of the uterus and appendages coexisted with displaced kidney, so that the patient continued to suffer as much as ever even after the thorough removal or repair of the affected genital organs, it may be interesting to study this rather obscure condition so that we may all more readily recognize it

* Read before the Canadian Medical Association, Toronto, 1899.

when present, and thus avoid disappointment in the cases referred to.

A few words first as to its cause: This is not yet certainly known. It is much more frequently met with in women than in men, having been found as often as ninety times in five hundred gynecologic cases, by Lindner, while Noble has found it in about one in every four. It occurs much more often in the right side than in the left, owing to the right lobe of the liver being larger and more apt to push it down; although a few cases have been recorded in which, the symptoms having continued after the right kidney had been stitched up, a further examination revealed a displacement of the left kidney, the fixation of which was followed by a complete cure. in bed for several weeks the kidney slips up into place to be movable. The present paper does not deal with congenital displacement, because in these cases the kidney is not movable but firmly placed in its abnormal position. It is generally thought that a tight corset or rather tight lacing is a cause, and althougn Noble and Edebohls say that a rather tight corset keeps the kidney up, the writer has had an experience to the contrary. In this case a woman with retroversion of the uterus and a tender prolapsed ovary and a floating kidney, while on a journey around the world, was taken so ill in Montreal that she could go no farther. As she declined to be operated on so far away from home, she was treated so as to reduce the excessive inflammation in the pelvis and to increase her fat; and after a month she was able to get up. She was doing nicely until she was given permission to put on her corsets and go to a public ball. As she had gained a little in size and her clothing had been made to fit her like a glove, her corsets had to be laced a little in order to get her dress on. Although she only had them on for a few hours, all her symptoms were much aggravated and it took nearly a month to recover the lost ground. She was finally sent home with a note to Mr. Greig Smith, who performed nephrorraphy and ventrofixation, but was not allowed to remove the ovary, with the result that while very much better she is not quite cured.

All are agreed on three points in the causation: 1, anything which causes a sudden and marked loss of fat in the perirenal cellular tissue; 2, frequent pregnancies which cause relaxation of the abdominal wall and lessening of the intra-abdominal pressure; and 3, making great efforts in lifting or sudden falls dislocating the kidney. In most of the writer's cases there was a coexisting retroversion of the uterus, which the patients dated from a fall from a chair on which they were standing, or from a strain while attempting to lift a helpless patient.

The most interesting question for us, however, is the symptomatology. If this were better known we would not be puzzled so much when we find women whom we have put into good condition gynecologically, persisting in saying that they are still suffering from the same gynecologic symptoms. The fact is that the kidney is so intimately connected with the great sympathetic system in the abdomen, that its displacement and the consequent dragging on the nerves whenever the woman assumes the erect posture causes very much the same symptoms as does the irritation of the sympathetic from the presence of scar tissue in the angle of a lacerated cervix, its compression by a swollen and prolapsed ovary, or pressure from a retroverted uterus. The symptoms, in their order of frequency and importance, have been, in the writer's experience:

1. Disorders of digestion accompanied with pain not only in the right side, from the dragging, but more especially in the left, and which may be described as a cardialgia or a gastrodynia—some of the patients attributed their pain only to their heart, having also shortness of breath and a smothering feeling. Many of them complained of pain all over the bowels. Two, who first consulted the writer since this paper has begun, said they had a fluttering feeling in the abdomen or as if the bowels were turning over and over. This dyspepsia resembles that due to lacerated cervix, for no matter what you do for it the benefit will only be temporary and the patient will soon complain as much as ever. She may get relief from it for several months during the latter half of pregnancy when the uterus pushes up the kidney with the other abdominal contents; or if a gynecologic operation or a broken leg keeps her in bed—for several weeks the kidney slips up into place and she feels well. But as soon as she gets up, her dyspeptic pains, the anorexia and gaseous eructations, the constipation and foul breath all return. Some have thought that these dyspeptic symptoms were due to the pressure of the floating kidney on the duodenum, but they are present just the same when the left kidney alone is displaced, which can not reach the duodenum.

2. General nervousness—naturally, sweet-tempered women become cross and irritable. They can not sleep on their left side and do not sleep well even on their backs or right sides. As long as they are sitting or standing they can not remain still but are in a constant state of fidgets. It may be noted here that this nervousness, like that due to a lacerated cervix, does not disappear immediately on the cause being removed; the nervous system seems to acquire a disordered habit.

3. Palpitation of the heart, coupled with the pain over the cardiac end of the stomach, leads the patient to have the firm conviction that she has heart disease. Both the rapid pulse and pain disappear almost immediately after nephrorraphy. It should be easy for the gynecologist at least, if not for all practitioners, to understand why a floating kidney should cause these symptoms in the circulatory and nervous systems, for we see exactly the same phenomena brought about by a lacerated cervix. There a diseased condition of less than a square inch of tissue will cause the most marked disturbances in distant parts of the body; headaches, disorders of vision, loss of memory, palpitation of the heart, obstinate constipation and dyspepsia. And when we remember that the great sympathetic nerve and the termination of the right pneumogastric go to form the solar plexus which supplies all the abdominal viscera; that these two nerves supply the heart, and that the sympathetic controls the circulation of the brain, it is not difficult to understand why the irritation of a floating kidney pulling and dragging at the solar plexus should produce all these reflex disturbances in distant organs. As you know, the solar plexus is situated behind the stomach, in front of the aorta and crura of the diaphragm. It surrounds the iliac axis and root of the superior mesenteric artery, extending downward as low as to the pancreas and outward to the suprarenal capsules.

Then we find symptoms directly due to the displacement of the kidney, such as pain in the back, partly caused by the dragging and partly due to the intermittent hydronephrosis caused by the kinking and consequent blocking of the ureter. In such cases the woman passes very little water during the day and the pain increases steadily until she goes to bed at night when, in a few minutes after having emptied her bladder, she will have to get up again and will then pass a large

quantity of urine and experience great relief. In other words, she has an intermittent hydronephrosis. In one of the writer's cases the right kidney was found in the left iliac fossa, and as the woman was extremely thin the kidney could not only be felt but could be seen moving anywhere in the abdomen where it was pushed. In another case the distended kidney attained the size and appearance of an ovarian cyst, completely filling the abdomen, and was removed by the writer, by abdominal section, with complete success.

Although marked emaciation is not a symptom, but rather a cause of floating kidney, yet it is so constantly coexistent that it may almost be regarded as one. Certainly when a woman complains of the reflex disturbances above mentioned, and is at the same time very emaciated, the idea of floating kidney should at once come to mind.

*Diagnosis.*—When the possibility of the presence of floating kidney has been thought of, the diagnosis is comparatively easy. The difficulty so far has been that the symptoms have been attributed to some other cause which has generally been supposed to be in the generative organs. These latter have been subjected to more or less severe treatment, which they did not require or deserve. In one of the writer's cases the patient had had curetting and repair of the cervix and removal of the ovaries without in the least relieving the pain, when, on making a careful search, the right kidney was found to be prolapsed. This was stitched up and the patient was completely cured.

It is especially important to remember that all the reflex disturbances may be due wholly or in part to floating kidney. When the latter can be distinctly felt wandering about the abdomen the diagnosis presents no difficulty. But when it has only moved two or three inches away from its proper place, it is not quite so easy to decide. Even such an able diagnostician as Lawson Tait diagnosed a case as one of distended gall-bladder and operated for it in the dorsal position. He found the gall-bladder and adjacent tissues healthy and the kidney in its place. He thereupon came to the conclusion that the tumor, which he and several others had distinctly felt, was a hysteric one. As the patient continued to complain, another operator was called in and on examining in the erect posture, found a movable kidney and completely cured the patient's long suffering by performing nephrorraphy.

If we make it a rule to examine for floating kidney while the patient is standing up and leaning forward with her hands on a chair so as to relax the abdominal muscles while the examiner sits on her right side and a little behind her, we will rarely fail to dislodge it, if it is movable. The fingers of the left hand are firmly pressed into the hollow of the back and the fingers of the right are pressed into the abdomen under the ribs in front, until they meet on the kidney if slightly displaced, or above it if displaced very considerably. Edebohls says he has always succeeded by directing the patient to sit on the edge of a chair with the body inclined forward and the hands resting on the knees. In some cases the writer has found a rigidity of the abdominal muscles, which gave very much the same sensation as a floating kidney; while in others the rigidity absolutely prevented anything being felt in the abdomen. In these cases a little anesthetic will enable one to clear up all doubt.

The only two conditions with which we could confound movable kidney are a distended gall-bladder and cancer of the pylorus. The writer was called to a consultation a year ago with two confrères, one of whom diagnosed cancer of the stomach and the other distended gall-bladder, while the writer diagnosed floating kidney. She had pain, marked dyspeptic symptoms and a bad color, but she had no lump or tumor anywhere while lying down, neither at the pylorus nor under the liver. But on standing up a typical kidney-shaped tumor made its appearance and could be felt about five inches below its proper place. In another case, which proved to be one of cancer of the pylorus, the tumor was not unlike the size and shape of the kidney. It had great mobility, but it could not be pushed up under the left ribs.

*Treatment.*—As marked emaciation seems to produce floating kidney, is the converse true that marked fattening will cure it? Certainly marked improvement of all symptoms generally appears if the patient can increase the deposit of fat in the abdomen. As we have already said, the Weir-Mitchell treatment of rest and forced feeding has been followed by great benefit. A few cases are on record of apparent cure of the disease without treatment simply because an improvement in nutrition took place. In several of the writer's cases all the symptoms disappeared and the patient was perfectly well as long as she stayed in bed on her back. If the patient can afford it, this treatment is worth trying. The majority of patients, however, want a more rapid relief if not cure, and for them there are two methods of treatment. The one which most of them prefer, although it is not the most satisfactory, is to support the kidney by some form of bandage or pad. If the kidney is only an inch or two out of place a well fitting corset will push everything above the waist line up, and consequently support the kidney. But if the kidney is below the waist line, then the corset will push it down, as happened to one of the writer's patients. The truss makers manufacture a pad and bandage for floating kidney which the writer has tried in two cases without benefit. In fact it made the patients worse, for it did not keep the kidney up and when the kidney slipped past the pad the latter prevented the kidney from going up again. The only good that we may hope to accomplish with a pad and bandage is by crowding up the whole of the abdominal contents. For this purpose a round cushion should be made of chamois leather and covered with a movable cotton cover to be frequently changed. This cushion should be filled with curled hair, for the sake of elasticity and lightness, and indeed for that matter an air cushion of rubber might do as well, and it should be thick enough to give the woman, when it is applied, a distinct roundness or plumpness of the abdomen. It should be put on while she is lying on her back and held in place firmly by means of a broad flannel or woven elastic bandage, so as to keep it evenly pushed into the abdomen. When the patient stands erect, all the abdominal contents will be supported and the patient will immediately experience great comfort. A patient who consulted the writer while this paper was being prepared has been fitted with such a pad and bandage, and experiences such relief from it that she will not entertain the idea of an operation, for the kidney; but as she has a retroverted and fixed uterus as well, she will probably have to be operated on for that sooner or later, and it is better while we are doing any operations which may be necessary on the pelvic organs to stitch up the kidney at the same time.

In those cases in which the above methods of treatment are impracticable or unsuccessful, we must fall back on nephrorraphy or stitching the kidney to the back, which as a rule gives very satisfactory results. The patient is placed on the face while a round billet

of wood or hair cushion about eight inches in diameter and a foot long is put under the abdomen so as to push the kidney up toward the back. This does not interfere with the anesthetizing, but on the contrary leaves the movements of the chest free. An incision is made, about four inches long from the last rib to the crest of the ilium through the skin, superficial and deep fascia along the outer border of the quadratus lumborum, and then through the conjoined tendon of the transversalis and internal oblique. We now come on the loose fat surrounding the kidney, and this is picked up, preferably with the fingers, and opened, taking care not to open the peritoneal cavity. This happened once to the writer, but it was immediately closed and did no harm. It will now be easy to palpate the kidney through the wound, when it is grasped with a pair of bullet forceps or vulsellum and brought up to, or better still out of, the wound. The convex border of the capsule is then incised for its whole length and turned aside so as to leave a strip of kidney exposed to the width of half an inch. This is important, because failures have occurred from defective precautions to obtain a long and wide line of adhesions. The kidney should be fixed by not less than five silkworm gut stitches passing through the conjoined fascia and entering a quarter of an inch into the kidney substance. Strange to say, this does not cause any hematuria, as we might expect. When all the stitches are passed, the kidney is dropped back into the abdomen, the space dried out and the stitches tied not too tightly, and they are cut off short. During the last few operations the writer has not employed drainage and the cases did equally well with those in whom he employed gauze, silkworm gut or rubber drainage. Some claim that packing around the kidney with a strip of gauze increases the inflammation and exudation and better adhesions, but on the other hand it prevents ordinary union, which is always desirable from a surgical standpoint when possible. Some operators, dreading that the silkworm gut sutures might cause suppuration, have attempted to anchor the kidney by temporary sutures going through the skin and muscles and which they remove a week or two later. But by this time the adhesions are not strong enough of themselves to hold up the kidney, which is then liable to fall again. Other operators have used catgut or kangaroo tendon, which, for the same reason is to be condemned. The silkworm gut stitches, if well sterilized and not tied too tightly only suppurate in about 5 per cent. of the cases, and then can be easily hooked up with a crochet needle and removed. There is no objection to a little irritation of the cellular tissue, as inflammation of it causes the kidney to adhere more firmly. Some of the writer's patients have complained of soreness in the wound and on the hip bone for a month or two, but eventually this disappears. It is important to remedy displacement of the uterus or of the other kidney at the same time, in order to obtain perfect results.

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# Therapeutics.

## "Colds."

It is odd that in all our modern advance in pathology there is included so little that is new in regard to the factors that constitute that group of phenomena which we, with the laity, denominate a "cold." This, too, despite the evident fact that many serious and even fatal diseases date their origin from that most common of all disturbances of the normal body functions. Pneumonia, pleurisy, bronchitis, pericarditis, endocarditis, pulmonary tuberculosis, nephritis, and a host of all too familiar affections are recognized by physicians as having at times had such origin. It is admittedly true that the casual relation of a "cold" to subsequent serious disease is much exaggerated by the laity, but that does not prevent our recognition of the indubitably frequent connection.

The ordinary symptoms of the disease are well known to us. There is usually the initial superficial chill accompanied or followed by congestion of one or other internal organ or mucous surface. The selection of the organ attached in a given individual is correctly, but not completely, explained by calling it a personal idiosyncrasy. When this has been said not much positive knowledge has been gained of the real nature of the process. By analogies drawn from modern bacteriologic studies it is concluded that many "colds" are infectious—perhaps contagious. Yet there is little positive information to be had concerning the bacteria involved in the production of this condition with its so infinitely varied results.

Fortunately, accumulated experience has developed reasonably certain and fairly scientific methods of treatment, which if applied sufficiently early afford great hope of avoiding evil sequels. The readiest method consists in at once administering calomel in 1/10-grain doses hourly until six or eight have been taken, following this with a dose of magnesium citrate. Although pathology does not furnish a scientific explanation of its action, great benefit is derived in most cases from the administration of 2-grain doses of quinin every hour, until 10 or 12 grains have been taken by bedtime. A hot bath, followed by one-half a Dover's powder and hot lemonade and whisky after getting into bed, constitute the remainder of the first day's treatment. In the morning a cool sponge, with an alcohol rub, will avoid the danger of going into the open air with the pores of the skin opened by the night's sweat. If there is coryza, an alkaline and antiseptic douche should be frequently and thoroughly employed. Strychnin and a mineral acid will, if needed, effect a prompt return of metabolism to its normal state. Frequently a "cold" may be aborted. The following methods and prescriptions may be found efficient for this purpose.

The patient should take a hot foot-bath on going to bed, drink a hot lemonade or rum punch, and cover up well with blankets to promote free diaphoresis. Some active cathartic should be given which will move the bowels by morning, or a full goblet of solution of magnesia citrate before breakfast.

The following prescriptions have been given by the writer, in numerous cases and usually with benefit:

℞ Tincturæ aconiti.....m. vi
Spiritus etheris nitrosi.....℥ii
Liquoris ammon. acetatis, q.s. ad.....℥ii
M. Sig. Teaspoonful in water every half hour.

FOR AGGRAVATING COUGH.

Should there be an aggravating cough present, the following combination will serve a useful purpose:

℞ Codeinæ sulphatis.....gr. iv
Tinct. aconiti.....m. viii
Spt. etheris nitrosi.....℥iii
Liq. ammon. acetatis, q.s. ad.....℥ii
M. Sig. Teaspoonful every hour or two as necessary.

Here is another prescription which is valuable in the beginning of a cold:

℞ Quininæ salicyatis.....gr. xv
Kryofin .....℥i
M. Disp. in caps. No. xii.
Sig. One capsule every two hours, for four or six doses, then every three or four hours.

Dover's powder is an old and very valuable remedy, to check the excessive watery secretion from the nose and, when taken at night in a full dose (10 grains) along with the hot lemonade or rum punch, will cause the patient to perspire freely.

Usually the most disagreeable stage of acute coryza is the

first stage, when the patient is sneezing frequently, and a watery discharge is continually running from the nose, with more or less complication of the throat. The nasal discharge and irritation can best be relieved by drugs given internally which serve to check secretions from mucous membranes, as small doses of Dover's powder, or opium in some form, belladonna, camphor, quinin bromid, blennostasin, gelsemium, etc. The following formula, prepared by Parke, Davis & Co., is an excellent combination to check excessive nasal discharge:

℞ Quininæ sulphatis
Camphoris, āā.....gr. ½
Pulv. opii.....gr. 1/10
Ext. belladonnæ fol.....gr. 1/20
Ext. aconiti rad.....gr. 1/10

Local applications to the nose are not only very popular, but often very efficacious.

If there is marked congestion of the nasal mucous membrane, a few minims of a 4 per cent. solution of cocain may be applied to the parts, and when the patient can draw air easily through the nostrils, they should be cleansed by thorough spraying with some bland antiseptic solution such as the following:

℞ Acidi carbolici.....m. xv
Sodii boratis.....ʒi
Sodii bicarbonatis.....ʒi
Glycerini.....ʒi
Aquæ rosæ.....ʒi
Aquæ, q.s. ad.....Oi
M. Sig. Use as a spray.

Or

Borolyptol.....ʒiv
Acidi borici.....gr. xx
Aquæ rosæ.....ʒiv
M.

Or, glyco-thymolin.

Or

Sodii chloridi.....gr. xv
Acidi borici.....gr. x
Sodii boratis.....gr. x
Aquæ dist.....ʒiii

After all mucus is washed from the cavities the membrane may be coated with medicated liquid albolene; the following combinations being both pleasant and effectual:

℞ Mentholis.....gr. iii
Camphoris.....gr. v
Albolene.....ʒi
M. Sig. Use in atomizer.

℞ Camphor menthol.....3 per cent.
Olei eucalyptus.....ʒss
Olei pine needles.....ʒss
Mildolene, ad.....ʒiv

Powders applied by means of a laryngeal powder-blower, are used by many physicians who prefer them to the oily protectives.

The following are good mixtures for this purpose:

℞ Morphinæ sulphatis.....gr. i
Bismuthi subnitratis.....ʒiii
Pulveris acaciæ.....ʒi
M. Sig. Use by insufflation.

℞ Pulveris belladonnæ foliæ.....gr. xx
Pulveris morphinæ sulphatis.....gr. ii
Pulveris acaciæ ad.....ʒss
M. Sig. Blow into the anterior and posterior nares. A dram of powdered camphor is often a good addition to the above prescription.

℞ Pulveris camphoræ.....ʒii
Acidi tannici.....ʒss
Pulveris saccheri albi.....ʒss
M. Sig. Insufflate thoroughly twice daily.

For the relief of the congested membrane, the following powder may be cautiously used:

℞ Cocainæ hydrochloratis.....gr. iiss
Mentholis.....gr. iv
Acidi borici.....ʒss
Pulveris caffeæ.....gr. viii
M. Sig. A small pinch in each nostril every two or three hours.

In severe cases in which the larynx and bronchial tubes have participated in the inflammatory condition, tonic and stimulating remedies are usually indicated late in the course of the affection, strychnin being perhaps the favorite remedy, although quinin, iron, coca, etc., may be used to advantage. Should bronchitis prove troublesome, expectorants will be needed, varying in composition according to the individual case.

### Palatable Quinin Mixture for Children.

Having had occasion to prescribe quinin repeatedly for young children, and being dissatisfied with the combination with syrupus yerbæ santæ, Greanellé made a number of experiments with a view to obtaining a pleasant and acceptable quinin preparation which could be continuously administered to children without their objection, and details the preparation of a "child's quinin mixture," readily taken by children but also serviceable as a bribe to be given after unpleasant medicines, such as stronger solutions of quinin. The mixture is designed as a tonic and malarial prophylactic for children living in malarious sections. It will serve for active medication in acute cases of malarial disease in children of 3 years or younger by giving the larger dose at hourly intervals. He finds that children literally cry for it and that it has frequently served as an excellent bribe, to be given immediately after a simple solution of quinin hydrochlorid in water when large doses of the drug are necessary. A teaspoonful of water carrying two or three grains of quinin muriate will be readily taken by any child, with "a spoonful of pink medicine right after." Those who have little patients in large numbers will appreciate this.

(1) ℞ Quinin hydrochlorate.....gr. v-gr. x;
Alcohol.....ʒi
(2) ℞ Oil of cinnamon
Oil of anise, āā.....m. xxx-xl
Magnesia, q.s.;
Water.....ʒi
M. Let stand for some hours; filter.
(3) Mix 1 and 2 and add:
Simple syrup.....ʒiii
Carmin or cochineal solution.....gtt. v.

Dose, one or two drams, as directed.

Saccharin in small quantity helps to disguise the larger dose of quinin. Small doses of Fowler's solution may be added, if indicated, or sodium bromid for children made irritable by quinin. Druggists will make this in quantity and keep it in stock if requested. It is simple, easily made, and inexpensive. Moreover, children like it.—*N. Y. Med. Jour.*, Oct. 28.

### Demineralization of Chronic Rheumatism.

Gaube asserts that every variety of chronic rheumatism, especially rheumatic gout, leads to the demineralization of the tissues and also to their dehydration, as can be easily demonstrated by the analysis of the tissues most affected by the rheumatism, including the blood-serum. The treatment is to supply the lacking elements, and he advises analyzing the total amount of urine collected in at least three times twenty-four hours; to compare the weight of the mineral elements furnished by this analysis to the anthropometric weight by kilogram of the body weight to compare the weight of the water in the urine with the anthropometric weight by kilo-hour; and finally to dose the remineralizing compounds so that their molecular weight corresponds to the molecular weight of the mineral elements utilized in the normal condition in the twenty-four hours per kilogram of the body weight. To determine the correct anthropometric weight subtract 2.5 from the height expressed in centimeters, for a woman, and discard the fractions for a man, using the two right-hand figures only in each case. For a man 164.5 centimeters in height the weight should be 64 kilograms, and a woman of 146.5 centimeters in height, should weigh 146.5 —2.5, that is, 44 kilos. He states that sodium is

the dominant of mineralization in fibrous and nodular rheumatism, while potassium dominates sodium in gouty rheumatism.—*Semaine Med.*, September 20.

### Injections of Potassium Permanganate in Dysentery.

Gastinel announces (*Semaine Med.*, September 20) that rectal injections of a solution of potassium permanganate assuage the pains more effectively than morphin, arrest the diarrhea and bring about a rapid cure, especially if combined with the ingestion of a gram of calomel. He adds to 250 grams of a cold solution of the permanganate at 1 per thousand an equal amount of hot water, the whole at a temperature of 45 C. The subject lies on his side with feet elevated, then on his back, and then on the other side, until the entire amount has been injected and retained for one to two minutes. It is repeated in twelve hours at first, then at longer intervals, reducing the standard of the solution. The injections are painful but the pain is bearable and never lasts over half an hour and they are always followed by the relief of all the symptoms.

### Treatment of Ingrowing Nail.

Kinsman (*Columbus Med. Jour.*) says that he does not remember an instance in which, by the following method, he has failed to cure an ingrowing nail: 1, remove all pressure from the nail by cutting away a piece of the shoe; 2, disinfect with hydrogen dioxid until no "foam" appears; 3, apply a drop of strong solution of cocain in the base of the ulcer; 4, apply a drop of Monsell's solution to the ulcer, then cover loosely with gauze. Repeat this process every second day until the edge of the nail is released by the retraction of the hypertrophied tissue. The patient suffers no pain from the application, and all pain has disappeared by the second day. The cure is effected in a week or two without inconveniencing or interfering with business.

### Chrysarobin a Specific for Tokelau.

The extension of our dominions in the Pacific render important the announcement that the "man-fish disease" or "tokelau" of Tahiti and the Malay archipelago can be completely cured with chrysarobin, which evidently destroys the parasite, applied in a 1/15 salve. Tribondeau, who makes the announcement, ascribes the disease, which resembles herpes circinatus, to a fungus, which he proposes to call the "lepidophyton."—*Semaine Med.*

### Protargol for Neonatorum.

F. Engelmann of Bonn instilled a 20 per cent. solution of protargol into the eyes of 100 infants, instead of following the usual Credé arg. nit. method, and announces that the almost entire absence of irritation and the positive bactericidal effect render the former much superior. There was not a single case of secondary catarrh, and the slight or moderate secretion that followed the instillations in 80 per cent. only lasted 1 to 1½ days.—*Cbl. f. Gyn.*, No. 30.

### Cantharides in Chronic Parenchymatous Nephritis.

Dr. Julius Salinger believes this drug to have distinct curative powers, as well as being valuable as a diuretic in nephritis. The tincture is the best preparation, and is to be given in small doses (one or two minims), as an overdose is easily irritating to the renal epithelium. In two cases quoted at length, dropsy and marked oliguria were speedily benefited and cured.

The following prescription was found satisfactory:

℞. Iron and ammonium acetate.....ʒss
Tinct. cantharides.....m. ii

—*Therap. Gaz.; Am. Jour. Med. Sciences.*

### Boric Acid Sugar for Thrush.

Escherich states that the promptest and most effective method of curing thrush and cleansing the mouth, is to put a little boric acid and saccharin in a sterilized rag and give it to the infant to suck.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

**American Journal of Obstetrics, October.**

1.—*The Gonorrheal Puerperium. Chas. Greene Cumston.
2.—*Preparation of Abdomen for Operation. Henry Harris.
3.—*Reflux of Air into Ureters through Air-Distended Bladder in Knee-Chest Posture. Howard A. Kelly.
4.—*Diagnosis of Tubercular Peritonitis. A. Ernest Gallant.
5.—*Intrapelvic Adhesions. Walter B. Chase.
6.— Night-Terrors. E. L. Tompkins.
7.— Use of Gloves in Abdominal Surgery. J. Wesley Bovée.
8.— Experiences with Intrauterine Vaporation. Abram Brothers.
9.— Case of Exencephalus with Specimen. Edward Hamilton.
10.— Embryotomy and Two Cesarean Sections on Same Patient. John C. McCoy.

**American Gynecological and Obstetrical Journal, October.**

11.—*Are Dangers of Menopause Natural or Acquired? A Physiologic Study. Anna M. Galbraith.
12.— Addition to Enucleation Method of Ovariotomy, Hysterectomy, etc.; Broad Ligment Forceps used as Temporary Hemostatics, Levers and Tractors while Enucleation is Proceeded With. Illustrative Cases. J. Coplin Stinson.
13.—*Inversion of Uterus. W. M. Donald.
14.— Technic of Antisepsis and Asepsis in Gynecologic Surgery. Charles Greene Cumston.

**Chicago Medical Recorder, October.**

15.—*Case of Acute Fat Necrosis. L. L. McArthur.
16.—*Case of Spinal Arthritis Deformans. Archibald Church.
17.—*Hematosalpinx Resulting from Occlusion of Vagina in Patient Suffering from Fibroid of Uterus, with Exhibition of Specimen. A. J. Ochsner.
18.—*Pernicious Anemia, Report of Cases. Frank Billings.
19.— Case of Symblepharon Relieved by Plastic Operations. F. C. Hotz.
20.—*Operation for Old Dislocation of Elbow-Joint. Arthur D. Bevan.
21.— Intubation and Antitoxin in Diphtheria. Albert B. Strong.
22.— Aneurysm of Aorta: Recovery. E. Fletcher Ingals.
23.— Shall the Code of Ethics be Abolished. E. J. Kuh.
24.— Case of Dystrophia Muscularis Progressiva, Erb's Type. Bertram W. Sippy.
25.— Case of Laryngeal Tumor. Otto Freer.
26.—*Case of Extirpation of Ankylosed Patella Restoring Function to Quadriceps Femoris. A. B. Hosmer.

**Philadelphia Monthly Medical Journal, September.**

27.—*Lectures on Orthopedic Surgery. John Ridlon and Robert Jones.
28.—*Clinical Relations of Papillary Muscles of Heart. Henry Sewall.
29.—*Placenta Previa, with Report of Four Cases. F. Spencer Halsey.
30.—*Cerebral Meningitis with the Tetragenus Micrococcus as Probable Cause. J. E. Greiar, G. A. Fackler, E. W. Mitchell and F. F. Hellman.
31.— Spasmodic Stricture of Esophagus, with Report of Case of Unusual Duration. Louis Gross.
32.—*Conservative Operations on Uterus and Appendages; Illustrative Cases. J. Coplin Stinson.

**Hot Springs Medical Journal, October.**

33.— Ocular Manifestations in Tabes Dorsalis. Herman Schmidt-Rimpler.
34.— Hereditary Syphilis. M. F. Engman.

**Medical Sentinel (Portland, Ore.), October.**

35.—*Observations on So-Called Spotted Fever of Idaho. Ed. E. Maxey.
36.— Remarks on Etiology of Eclampsia. R. Kelly.
37.— Headaches, Especially those of Ocular Origin. John A. Donovan.
38.— Headache. L. R. Markley.

**Ophthalmic Record, October.**

39.— Cyst of Vitreous. J. Oscroft Tansley.
40.—*Report of Seven Cases of Retinal Sequelæ of Diseases Affecting United States Troops in Cuba and Porto Rico. W. K. Rogers.
41.— Malignant Neoplasms of Eye. John O. McReynolds.
42.—*Report of Case of Toxic Amblyopia, Illustrating Importance of Detecting this Disease in all Cases where Railroad Employees are Affected. J. O. Stillson.
43.—*Refraction of Trachomatous Eyes. E. E. Hamiltom.
44.—*Excision of Superior Sympathetic Ganglion for Glaucoma, with Report of Case. Geo. F. Suker.
45.— Case of Microphthalmic Eye, with Large Coloboma of Choroid. Frank Allport.
46.— Ciliated Tumor of Conjunctiva. Frank Allport.
47.— An Unusual Case. E. W. Reagan.

**Modern Medicine (Battle Creek, Mich.), September.**

48.— Significance of Dental Decay. J. H. Kellogg.
49.— Report of Case of Autointoxication Aggravated by Drug Medication. Howard F. Rand.
50.— Report of Case of Mitral Insufficiency, Beginning Glycosuria and Possible Incipient Paralysis Agitans. William B. Holden.

**Louisville Monthly Journal of Medicine and Surgery, October.**

51.— Gall-Stones in Common Duct: Diagnosis and Treatment. Fouche Warren Samuel.
52.—*Some Practical Points in Intubation. A. G. Blincoe.
53.— Friedreich's Ataxia: with Report of Two Cases. F. H. Clarke.
54.—*Traumatic Tetanus. John A. Lewis.
55.— Observations on Case of Albuminuria. O. A. Kennedy.

**Journal of Medicine and Science (Portland, Me.), October.**

56.— Mastoiditis. E. E. Holt.
57.— Pulmonary Tuberculosis: New Method of Treatment by Continuous Inhalations of Antiseptic and Germicidal Air. Alfred Watson.

58.— Relation of Physician to his Co-worker. Thomas J. Stevens.
59.— Janet Treatment of Gonorrhea. G. A. Pudor.

**Journal of Scientific Medicine (Chicago), September.**

60.— Some Trials of a Physician. Henry Stein.
61.— Technique of Intubation. Edwin Rosenthal.
62.— Remarks on Emergency Cases in General Practice. Gustavus M. Blech.
63.— Antistreptococcus Serum Therapy. John Madden.
64.— Pollutions and Spermatorrhea. Victor F. Mueller.

**American X-Ray Journal (St. Louis, Mo.), October.**

65.—*Excitation of Crookes' Tube by Static Machine. John T. Pitkin.

**Southern Medical Journal (LaGrange, N. C.), October.**

66.— The Human Brain: Appeal to General Practitioner to Give it More Study. J. Harrison Hodges.
67.— Whatever Profit There is in Medicine Belongs to Doctors. H. O. Hyatt.

**International Medical Magazine (Philadelphia), October.**

68.—*Antitoxin in the Light of Scientific Investigation. A. Robin.
69.— Herpes Zoster, with Especial Reference to Supra-orbital Type. Jay F. Schamberg.
70.—*High Amputation of Cervix and Vaginal Suture as Preliminary to Abdominal Hysterectomy, with Report of Case. W. Wayne Babcock.
71.— Use of Calomel in Diphtheria. T. D. Coleman.
72.— Treatment of Retrodisplacements of Uterus. Edward E. Montgomery.
73.— Treatment of Syphilis. J. D. Thomas.
74.— Diagnosis and Prognosis of Chronic Asthenic Gastritis (Ordinary Chronic Gastric Catarrh). Boardman Reed.

**Colorado Medical Journal (Denver), October.**

75.—*Treatment of Pelvic Suppurations. H. G. Wetherill.
76.— Obstetric Lacerations of Vagina and Perineum. W. A. Kirkland.
77.—*Hygiene of the Home. Willam C. Mitchell.
78.— Case of Persistent Foramen Ovale with Auscultatory Signs. Henry Sewall.
79.— Impressions of a Trip to the Netherlands. B. Oettinger.

**Therapeutic Gazette (Detroit, Mich.), October 15.**

80.—*Destruction of Mosquito: Contribution to Study of Culicidal Substances Bearing on Prevention of Malaria by this Means. A. Celli and O. Casagrandi.
81.—*Intestinal Antiseptics in Typhoid Fever. M. M. Pearson.
82.— Four Fractures Treated by Operation and Wiring Because of Failure to Reduce by Conservative Methods. W. T. Sharpless.
83.— Spontaneous Escape Through Umbilicus of a Catheter Introduced into Uterus. P. N. Eckman.
84.— Choice of Operations for Stone. John H. Brinton.

**New England Medical Monthly (Danbury, Conn.), October.**

85.— Therapeutic Use of Colloidal Metals. Arthur Schlossman.
86.— Trip to Hot Springs, Virginia. W. C. Wile.
87.— Euphthalmin: a New Mydriatic. B. Treutler.
88.— Notes, Chiefly Clinical, on Bright's Disease and Its Treatment. G. A. Gilbert.
89.— Rheumatic Diathesis. Roy D. Moore.

**Merck's Archives (N. Y.), October.**

90.—*Digitalis in Treatment of Heart Disease. W. H. Washburn.
91.—*Uses of Europhen. William F. Waugh.
92.— Thoughts on Gastro-Intestinal Therapy. Virginius W. Gayle.

**Physician and Surgeon (Detroit and Ann Arbor, Mich.), September.**

93.—*Hemophilia. G. W. Wagner.
94.—*Series of Analyses in Acute Melancholia, of the Stomach Contents after a Test Breakfast. Samuel Bell.
95.—*Stricture of Esophagus and Electrolysis by a New Esophageal Electrode. Charles D. Aaron.
96.—*Treatment of Septic Processes of Extremities. Fritz Maass.
97.—*Tongue in Disease. A. I. Burdeno.
98.— Acne Vulgaris and its Treatment. W. A. Hackett.

**American Practitioner and News (Louisville, Ky.), September 1.**

99.— New Arts in Practice. Wm. B. Doherty.
100.—*Traumatic Tetanus. John A. Lewis.
101.— Practical Treatment of Typhoid Fever. Basil M. Taylor.

**Virginia Medical Semi-Monthly (Richmond), Sept. 22 and Oct. 13.**

102.— Remarks on Asthma as a Symptom of Uric Acid Collemia. John Dunn.
103.— Physical Examination for Life Insurance. Allen H. Kelch.
104.— Shall We Operate in Every Case of Appendiditis. Virginius Harrison.
105.— Rare Result of Gunshot Injury to Spine. Wm. H. Dial.
106.—*Treatment of Pulmonary Tuberculosis by Inhalation of Antiseptic Nebulæ. Homer M. Thomas.
107.—*Old Age, and Modifications in Course of Ordinary Diseases when They Attack the Aged. Marvin E. Nuckols.
108.—*Form of Diplococcus Scarlatina, Not Previously Described. W. J. Class.
109.— Appendicitis—Report of Twelve Cases. Chas. G. Cannaday.
110.—*Vesico-Rectal Anastomosis. Jacob Frank.

**Northwestern Lancet (St. Paul, Minn.), October 1.**

111.—*Some Observations on Medical Service of late War with Spain from Standpoint of Volunteer Surgeon. Thomas C. Clark.
112.— Case of Labor Complicated with Nephritis. Theo. L. Hatch.
113.—*Observations on Treatment of Tuberculosis of Bones and Joints. C. H. Mayo.
114.— Some Abuses in Nasal Surgery. W. S. Laton.
115.—*Need of More Systematic Instruction in Diseases of Advanced Life. J. W. Bell.

**Medical News (N. Y.), October 28.**

116.—*Certain Aspects of Bone and Joint Disease of Interest to General Practitioner. Virgil P. Gibney.
117.— Typhoid Fever in Very Young Children, with Report of Three Cases with Unusual Complications. E. B. Montgomery.
118.—*Therapeutics of Infectious Conjunctivitis. Dudley S. Reynolds.
119.— Case of Hernia of Pregnant Uterus. W. V. Anderson.

**New York Medical Journal, October 28.**

120.—*Relation of Pathologic Conditions of Ethmoid Region of Nose to Asthma. The Pathology. Henry L. Swain.
121.—*Cause of Death from Industrial Electric Currents. R. H. Cunningham.
122.— Case of Fibrolipoma of Tonsil, with Microscopic Section. Thomas Amory De Blois.
123.— Dry Heat of High Degree as a Therapeutic Agent. C. E. Skinner.
124.—*Alcoholism. Charles J. Douglas.
125.—*Report of Case of Abscess on the Interior Surface of the Epiglottis. Alexander C. Howe.
126.—*Palatable Quinin Mixture for Children. W. J. Greanellé.

**Philadelphia Medical Journal, October 28.**

127.—*Importance of Early Diagnosis and Operation in Tumors of Mammary Gland. W. L. Rodman.
128.— Case of Large Tumor of Brain, Producing Few Symptoms Save Ocular Changes, with Remarks on Value of Double Optic Neuritis as a Sign of Brain Tumor. James Moores Ball.
129.— A Day's Surgery in the Pennsylvania Hospital. Robert G. LeConte.
130.—*Remarks on Therapeutic Efficacy of Heroin. Max Einhorn.
131.— Stricture of Esophagus as a Complication and Sequel of Typhoid Fever. Case Cured by Abbe's Operation. J. E. Summers, Jr.
132.— Pneumonia Interstitialis with Purulent Destruction of Lung Tissue; Recovery. H. Beck.
133.—*Preliminary Note on the Treatment of Leprosy by Injections of Calmette's Antivenene. R. S. Woodson.

**Medical Record (N. Y.), October 28.**

134.—*State Care of Consumptives, with an Account of the First State Hospital for Tuberculosis in this Country. Alfred Meyer.
135.—*Sphere of Drainage in Surgery of Appendix. Wm. Stevenson MacLaren.
136.— Brief History of Five Cases of Mastoiditis. Robert Lewis.
137.— Major and Minor Technic of Bassini's Operation as Performed by Himself. E. Wyllys Andrews.

**Boston Medical and Surgical Journal, October 26.**

138.— Acute Abdominal Symptoms Demanding Immediate Surgical Intervention. Maurice H. Richardson.
139.—*Functional Diseases of Heart. Henry Jackson.
140.—*Responsibility of Attending Physician when a Will is Made. Arthur C. Jelly.
141.— Study of Fourteen Hip Abscesses. Frank E. Peckham.
142.— Examination of Digestive Case. M. P. Smithwick.
143.— Case of Post-Febrile Delirium. Robert W. Greenleaf.

**Maryland Medical Journal (Baltimore), October 28.**

144.—*Diseases of Stomach. Their Practical Diagnosis with Special Reference to Early Diagnosis of Cancer of Stomach and its Treatment. Robert Hoffman.

**Medical Review (St. Louis, Mo.), October 28.**

145.— Surgery of Gall-Bladder. Wm. A. McCandless.
146.— Intestinal Disturbances in Children. Eugene Thompson.

**Cincinnati Lancet-Clinic, October 28.**

147.— Speech and Its Disorders. John A. Caldwell, Jr.

## AMERICAN.

1. **Gonorrheal Puerperium.**—This paper by Cumston contains a general discussion of the literature of gonorrheal infection in women, with more especial reference to puerperal conditions. He does not think that any definite symptomatology of this infection can be described. It undoubtedly runs a milder course than other septic processes during the puerperal period, but these do not indicate that the process has been cured, for it is a well-established fact that it is chronic, and defies treatment. He reports five cases.

2. **Preparation of Abdomen for Operation.**—Recognizing the existence of a normal cutaneous flora of the skin, Harris describes the methods of cleansing and preparing the skin for operation, in full detail, and deduces the following conclusions: 1. It is impossible to sterilize the living skin. 2. Efforts at sterilizing even the superficial parts of the skin by methods used in the operating-room are unsuccessful in most cases, and probably so in all cases. 3. The degree of sterilization of the cuticular layer of the abdominal skin, achieved by preparation for abdominal section, varies directly with the amount of cleansing done.

3. **Reflux of Air Into Ureters.**—Noticing first the question as to the reflux of fluids from the bladder into the ureters, Kelly records his own observations regarding the entrance of air into these ducts. When the patient is placed in the knee-chest position, and the catheter introduced as far as the renal pelves, a little air sometimes enters and escapes later in bubbles with the discharge of the urine. Sometimes, however, air enters the ureters spontaneously before the orifice is touched,

and becomes heated there to the body temperature and is forced out in little bubbles which have been in several instances a guide to the ureteral orifice. More frequently the air spontaneously enters into an inflamed ureteral orifice on a side which is discharging pus, and when the ureteral opening is concealed in the puffy hyperemic mucosa, its guidance is invaluable. He has observed this entrance of air into the ureters at least a dozen times, and the fact shows that the ureters are not air-tight under some conditions, while it does not prove that they are not water-tight under physiologic conditions. He has never seen any harm come from the entrance of air.

4. **Tubercular Peritonitis.**—The summary of Gallant's article on the diagnosis of tubercular peritonitis is given in the following: 1. Tubercular inflammation of the peritoneum is met with at all ages and is most common in early adult life. 2. It is most frequently met with in women and between the ages of 20 and 40 years. 3. It most often originates in the pelvic sexual organs, and from that point may extend to the visceral and parietal abdominal peritoneum. 4. As a primary lesion of the peritoneum it resembles, in its inception, subsequent history and final outcome, the various forms of the same disease in other serous cavities. It may be secondary to tubercular disease in any other part of the body, especially the lungs and pleura. 5. The most distinctive features of the disease are: a rather constant subnormal morning temperature, rising to the normal in the late afternoon, reaching a little above at night; hypogastric pain on pressure, on walking, and when urinating; and the presence of the tubercle bacilli in the pulmonary, cervical, or vaginal secretions. 6. Anesthetic examination in pelvic cases will often aid in clearing up the diagnosis, but when the abdomen is tensely distended with encysted fluid, unless immediately preceding operation, it will only subject the patient to useless discomfort. 7. A positive diagnosis other than by exploratory incision is in some cases impossible. 8. Early abdominal section, evacuation of the fluid, removal of the original focus, carefully avoiding any attempt to break up intestinal adhesions, thorough irrigating of the cavity with saline solution, and closure of the abdomen without drainage of any form, has been shown by later operations for other conditions, and on autopsy, to have resulted in permanent cure. 9. When confined to the pelvis, removal of the original focus usually results in permanent cure of the disease. 10. Where fluid reaccumulates, a second celiotomy will be curative or prolong life. 11. Tubercular disease in other parts, especially the lungs and pleura, is not a contraindication to operation, which will be followed by a more or less prolonged abeyance or retardation of the disease.

5.—See abstract in JOURNAL, October 21, p. 1045.

11. **Dangers of Menopause.**—The theories of menstruation and of the menopause are discussed at length by Galbraith, who concludes, in answering the question, "Are the dangers of the menopause natural or acquired?" that the enervating mode of life and various unnatural conditions have much to do with the suffering of women at this period. A special point is made that of sixteen patients who had had miscarriages, only one was free from suffering at the menopause. The fact that single women suffer less, as a rule, than married women, would suggest the occurrence of lesions of pregnancy having something to do with the phenomena.

13. **Inversion of Uterus.**—First noticing the rarity of this accident, and asking whether it may not occur with greater frequency than is reported, Donald reports a case in which it occurred during labor and was reduced by pressure by a hot douche at the height of eight feet. He thinks this may be an ideal treatment in cases of inversion seen early before the fundus has extended too far through the os.

15. **Acute Fat Necrosis.**—The case reported by McArthur is that of a young woman who was taken to the hospital in a state of collapse, with a history of sudden pains in the abdomen resembling hemorrhage. The abdominal symptoms indicated that fluid had escaped into the cavity, and after opening the abdomen a large amount of dark, straw-colored fluid was seen oozing from the lesser peritoneal pouch through an opening in the omentum. The mesentery of the intestine presented the well-marked appearance of acute fat necrosis. The lesser peritoneal pouch was opened and packed and the abdominal cavity flushed with hot saline solution and drainage arranged. The patient survived. As the abdomen had been left open an enormous ventral hernia followed, but was corrected by making alternate flaps from the anterior sheath of the recti muscles and stitching them past the midline to the opposite side, thus having firm fibrous tissue over the mesial line as represented by the bases of the said flaps.

16.—See abstract in JOURNAL, October 7, p. 917.

17.—Ibid, p. 916.

18. **Pernicious Anemia.**—In Billings' case, the main features have been an anemia characterized by a great pallor, subjective weakness, prostration and want of endurance, a peculiar lemon-yellow hue of the skin, petechial hemorrhage of the mucous membranes and of the skin at times, and a blood finding representing a profound anemia characterized by a great diminution in the red cells, with marked irregularity in form of cells, polychromatism, the presence of nucleated red cells which gradually increased in number until the megaloblasts were found in double the number of the normoblasts and with karyokinesis moderately present. Associated with this condition of the red cells was a relatively larger percentage of hemoglobin than the percentage of red cells, which gives on an average in this case a so-called high color index.

The usual conditions which are laid down as essential in diagnosis of pernicious anemia are the absence of a disease which ordinarily would produce symptomatic anemia, with progressive and persistent anemia characterized by marked diminution in the number of red cells, with marked irregularity of form and size of red cells, including the presence of very large red cells and of very small ones; a change in the color reaction of the body of red cells—polychromatism—and the presence of nucleated red cells which increase progressively with the disease and sooner or later the megaloblasts equaling or outnumbering all nucleated cells. Further, each individual red cell relatively rich in hemoglobin, so that the hemoglobin, as represented by the specific gravity of the blood or the color test, shows a larger percentage of hemoglobin present than the number of red cells would indicate in a symptomatic anemia. In the anemia due to intestinal parasites, especially the *Ankylostoma duodenale* and the *Bothriocephalus latus*, the blood finding is practically that of the idiopathic pernicious anemia, although the anemia due to these parasites is a symptomatic one. The lemon-yellow color of the skin, due, it is said, to a hematogenous icterus because of the great amount of iron deposited in the liver during the course of the disease, is considered by many as an important diagnostic point.

The disease is probably found more frequently in the female than in the male, and between the thirtieth and fiftieth year, although cases are on record of it occurring in infancy and in the very aged. It occurs in all climates and in all civilized countries. It has been specially prevalent in Switzerland, where the larger number of cases may be due to a closer observation of patients suffering from anemia, and also possibly to the presence of the *Ankylostoma duodenale*.

In addition to the case reported, he has data of ten other cases in which the diagnosis of pernicious anemia had been made. Of these, 4 have died. A post-mortem examination was made on 2. In 1 the diagnosis was verified; in the other the diagnosis was neither confirmed nor denied. In the 2 other cases, unfortunately, autopsy could not be obtained, but the symptoms were so characteristic and the blood finding so pathognomonic that there could be no question of the diagnosis. Of these cases 5 were females and 6 males. The youngest was 25 years of age and the oldest 60. In the youngest the course was rapid, certainly not more than three months from the beginning of the first symptom until death. In another the duration was about 2½ months; the longest was about a year and a half. There was an irregular course of fever in most of the cases; in all where the temperature was taken with some regularity. There were murmurs heard in the precordial region of all, and a venous hum in the neck in 3. The spleen was enlarged in 4, and very large in 1. There was dyspnea on exertion in all, and a feeling of hunger in 2, without exertion. There was hemorrhage into the skin in 3, and in the mucous membrane in 3, hemoglobinuria in 1, hemorrhage from the uterus in 1, and retinal hemorrhage in 2. Headache was a prominent symptom in 2, and insomnia a marked symptom in 3. There was neuritis in 2, myelitis in 1, and sensory disturbance in the form of numbness, formication, etc., in 7.

There was constipation in 7, constipation alternating with diarrhea in 1, chronic diarrhea in 2, and infusoria were found in the stools of 1. One patient suffered from emphysema, interstitial nephritis and general arteriosclerosis, 1 had albumin in the urine, and in 1 hydrochloric acid was absent from the stomach, and lactic acid was increased, while in another there was marked jaundice with an acute yellow atrophy of the liver with a pregnancy of ten weeks. In all there was a marked diminution in the red cells, with marked poikilocytosis, marked polychromatism, marked irregularity in size of red cells with many macrocytes and microcytes, nucleated red cells present at some time in the course of all, and in those fatal a marked preponderance of megaloblasts, and in all karyokinesis. The hemoglobin was in larger percentages than the red cells, which gave an increased color in every case. The white cells were uniformly diminished, excepting in one case, where but one examination was made, and in another one just before death, and in the patient who suffered from probable sepsis, associated with a miscarriage.

20. **Dislocation of Elbow.**—Bevan describes an operation in an old case of dislocation of the elbow-joint by making deep incisions, one over the olecranon at the inner side close to the bone, pulling away the ulnar nerve, then another over the radius in order to expose the radial head of the humerus and the radius itself. In this way the joint was carefully explored without any sacrifice of the triceps tendons, and the arm can be dressed at a right angle. He believes the results will be good.

26. See abstract in JOURNAL, October 7, p. 917.

27. **Orthopedic Surgery.**—Ridlon and Jones continue in this paper their lectures on orthopedic surgery. Among the important subjects treated, hip and knee-joint disease ranks first. The text is elaborate, and the numerous illustrations make clear the application and value of the various mechanical devices for the proper treatment of these common affections.

28. **Papillary Muscles of Heart.**—Sewall considers that the common cause of reduplication of the heart's first sound lies in the independent audibility of the vibrations of the auriculo-ventricular valves, produced by contraction of the papillary muscles. Asynchronism in the contraction of papillary and ventricular muscle is often due to the early fatigue and tardy contraction of the former, produced by excess of intracardiac blood pressure. Reduplication of the first secured, he considers a sign of overstrain of the heart, and it may be confined to either or both sides of the organ. An essential factor in the production of the mitral regurgitant murmur is probably weakness of the papillary muscles, and failure on their part to compensate for systolic relaxation of the chordæ tendinæ

29. **Placenta Previa.**—After reporting four cases of this condition, Halsey suggests that the two cardinal principles to be borne in mind in the treatment are: 1. Delivery as soon as it is possible after the first hemorrhage has occurred and the diagnosis is made, without regard to the viability of the child. 2. Watchful waiting and the adoption of that form of interference which stops the hemorrhage quickly, dilates the cervix, and delivers the child with as little risk to the mother and child as possible.

30. **Tetragenus Micrococcus in Cerebrospinal Meningitis.**—By making inoculations from the cerebrospinal fluid in all of the four cases examined, in the fresh preparation, as well as agar growths and bouillon cultures, the tetracoccus was found in large numbers. The writer disclaims any intention of forming conclusions from the results of the above four examinations, but urges that further investigation be made.

32. **Functional Stricture of Esophagus.**—Occurring in a woman aged 55, associated with edema of the glottis, dyspnea, and absolute dysphagia, there was hemianesthesia of the left side of the body, with hemiparesis; for thirty-six hours the patient was unable to swallow, after which time food was introduced through a gastric tube for a period of five weeks. Under an anesthetic, however, the stricture was removed. Laryngologic examination showed complete immobility of the right half of the larynx and vocal cords, a difficulty in swallowing saliva; in phonation the right cord fails to approximate the left, while the left moves easily. Massage was used in addition to the daily introduction of a sound, as well as the intra-esophageal application of electricity, cold applications, suggestion, and the liberal use of the bromids. After five months all symptoms had completely subsided, excepting a slight hoarseness.

35. **Spotted Fever of Idaho.**—In this article Maxey describes a peculiar disease occurring in certain parts of Idaho and adjoining states, clinically characterized by continuous moderately high fever, severe arthritic and muscular pains and a profuse petechial or purpural eruption, occurring first on the ankles, wrist and forehead, but rapidly spreading to all parts of the body. This feature gives the disease its popular name. The specific cause has not yet been discovered. It occurs invariably in the spring months and, he believes, is contracted in or near the foothills of the mountains by those who drink snow water. It is much more frequent in men than in women and children, especially in those who undergo exposure. Very few patients die, and the pathology is therefore unknown. The diagnosis is easy. The duration may be several weeks and the epidermis appears to be killed over the location of the eruption on the feet, though it is not so noticeable on other parts of the body. If the patient is transferred to the lower valleys, where he can have proper care and home comforts, recovery is generally prompt and complete. The only sequel noticed has been a little stiffness of the knee-joints for some weeks after. The treatment is entirely symptomatic: baths, change of bedding add to the patient's comfort; the diet and bowels should be properly regulated. For fever, Maxey uses cold sponging with occasional doses of phenacetin or acetanilid, and Dover's powders if required to relieve the pain and restlessness. During convalescence, stimulants, iron and bitter tonics are in order.

40. **Retinal Sequelae of Tropical Diseases.**—Rogers reports seven cases of edema, hemorrhage, infiltration, retinitis, papillitis, etc., following yellow fever, typhoid, malaria and dysentery, in soldiers at Porto Rico. He credits the conditions more to malnutrition than to any other cause.

42. **Toxic Amblyopia.**—In opening his paper, Stillson remarks that he has met with numerous cases of toxic amblyopia among railroad employees, pensioners and private patients within the past year. He is inclined to think that the condition is much more frequent than is usually supposed, and he credits it largely to excess of stimulation, irregularities of life, etc. In women he found that it occurred in heavy coffee drinkers and drug takers. The ordinary course of the disease is recovery, more or less complete, when the toxic element, whatever it be, is completely removed from the system, providing that the condition has not gone too far. He sums up his conclusions as follows: 1. This disease is more prevalent than it was formerly supposed to be. 2. It is to be found among people holding positions of trust and great responsibility, where human life depends on accurate and quick eyesight as well as judgment; any tardiness, therefore, in the visual act, any hesitancy, or lack of decision, may result disastrously both to life and property. 3. This disease is to be considered curable; it differs in this respect from true color blindness or Daltonism; it frequently appears in people whose eyesight has formerly been fairly perfect. It may also appear in people who are color blind. 4. It is more usual among men than women, for obvious reasons; the eyesight of men is more frequently brought into question as a mere matter of responsibility to others. 5. It is due largely to the tobacco habit, to mental and bodily fatigue, which renders the individual more susceptible to the influence of stimulants and narcotics, taken often to counteract the effects of irregular sleep and irregular diet. 6. When neglected it becomes chronic and incurable. 7. While tobacco and whisky probably hold first place as agents in its causation, it may arise from other sources, or be due to complex conditions existing in the system giving rise to autointoxication.

43.—This article appeared elsewhere; also see JOURNAL, July 8, title 23, p. 92.

44. **Glaucoma.**—Suker reports a case of excision of the superior cervical ganglion in a case of glaucoma, performed according to Jonnesco's method, with the result of relieving pain and tension but not improving vision. He therefore believes in the efficacy of this operation for glaucoma. If one operates simply for the relief of pain, the ganglion on the same side as

the painful eye should be excised. If one eye is painful and vision lost, while the other eye is not painful and there is some vision, both superior cervical ganglia should be removed, and this should be done in every case of glaucoma excepting the hemorrhagic variety. He claims that this is a logical procedure because the sympathetic nerve fibers of the eye must pass through the ganglion, and these fibers supply the iris, choroid, retina, sclera and ocular blood-vessels, and are found in the unstriated muscles of Tenon's capsule. Their stimulation or irritation causes constriction of the intraocular blood-vessels, contraction of the circumbulbar muscles and increased action of those elements constituting the aqueous humor, thus interfering with the intraocular fluid exchange and causing increase of tension.

52. **Intubation.**—Blincoe lays down the following rules to be observed in performing intubation in young children. The child should be well wrapped, and held in the lap of a person who sits erect, holding the child's feet and legs between her knees, and securing the elbows with her hands, the head resting against her left shoulder. This gives the operator room for depressing the handle of the instrument and starting the tube into the child's mouth, and the child's head and body should be exactly in the vertical position. Take care to select the proper sized tube, and in placing the tube on the introducer the flange should be turned from the operator toward the child's back, so that when introduced the epiglottis may not be impeded. When the left index finger, which in the absence of a finger protector should be wrapped with a soft rag, has found the epiglottis and pulled it forward, and the tube has been guided by it to the opening, the handle of the instrument should then be raised to a horizontal position so that the tube can go straight downward into the larynx, otherwise it will push over into the esophagus. This accident is liable to happen with inexperienced operators. As regards the management of the string, he would intrust it to the assistant who holds the mouth-gag and steadies the child's head. This relieves the operator from all care concerning it, and he can concentrate his whole attention on getting the tube into the larynx.

54.—See abstract in JOURNAL, June 10, p. 1321.

65. **Static Machine and Crookes' Tube.**—Pitkin has devised a twelve-plate static machine which he claims is better adapted the use with the Crookes' tube than the ten-plate ones which have hitherto been the largest employed. By adding the two extra plates the advantage of larger surface is obtained without increasing the size of the plates, and the danger zone arou d the tube will not be increased. When driven at a moderate speed, his machine produces a ten to fifteen-inch spark, which is very fat, that is, has six electric bands playing between the discharging rods. In X-ray work the new apparatus lights up and maintains a steady ray in a Crookes' tube the size of a cocoanut, enabling a skiagraph to be made through the adult body at a safe distance of one to two feet in one to five minutes.

68. **Antitoxin.**—The incentive of this paper was furnished by the recent article of Herman in the *Medical Record* (see JOURNAL, June 3, ¶ 86, p. 1250), and Dr. Robin refutes the statements there made in detail and at length, giving statistics to support his statements.

70. **High Amputation of Cervix.**—Babcock reports a case of protruding elongated cervix associated with epithelioma on which he operated by first high amputation of the cervix and suture of the vagina and ligation of the uterine arteries, and the subsequent removal of the uterus through the abdomen, which was facilitated by these preliminaries. He lays down the indications for the removal of the cervix during a hysterectomy, as follows: 1. All cases of malignant disease or of tuberculosis of the uterus. 2. Certain cases in which there is laceration, hyperplasia or inflammation of the cervix not to be relieved except by an extensive trachelorraphy or amputation. 3. Certain cases in which the retention of the cervix is believed to predispose distinctly to a future malignant involvement. Of course, there may be cases where the suture of the vagina may be unwise, but even here a temporary suture, to be removed and replaced by a drain after the abdominal closure, may be of service.

75. **Pelvic Suppuration.**—Wetherill reports several cases of pelvic disease treated by vaginal opening and drainage, and discusses the condition generally. He insists on the point that each case must be considered as subject to the same general laws applying to the treatment of such accumulations elsewhere in the body, that is, the pus must be evacuated and, so far as it is possible to do so, a secondary or mixed infection prevented. He has found the vaginal route to be satisfactory in many intrapelvic conditions. He formerly preferred to attack through the abdominal wall, and his opinion as to the legitimate scope of the lower operation is that it has seemed to widen. As regards small tubo-ovarian or appendicular abscesses, however, he believes the abdominal route the best and safest in most cases.

77. **Hygiene of the Home.**—This article points out the necessity of excluding germs from homes, and lays down the well-known rules for consumption and diphtheria. The author also cautions against sweeping in such a manner as to stir up disease-breeding germs. Damp brooms, damp floors and as little useless agitation as possible, combined with the use of a damp dust-cloth would reduce this to a minimum. The kitchen hygiene is also mentioned in detail, and he remarks that the introduction of bacteriologic cleanliness into the kitchen instead of even the best domestic cleanliness would practically do away with a host of ptomain poisonings and intestinal troubles.

80. **Destruction of Mosquitoes.**—This paper, by Celli and Casagrandi, is quite lengthy and goes in full detail into all the methods thus far recommended for the destruction of mosquitoes, which is a point now of importance in connection with the recent discoveries in regard to malaria. The stages in which they are most easily destroyed are the larval and aerial ones, and in the former the younger they are the more easily are they destroyed. To kill the larvæ, we have in order of their efficiency, among the mineral substances, sulphurous oxid, permanganate of potash with hydrochloric acid, common salt, potash, ammonia, carburet of lime, corrosive sublimate, chlorid of lime; and then the bisulphates, sulphate of iron and copper, lime, bichromate of potash, sodium sulphite. Among the organic substances: powders of the unexpanded flowers of chrysanthemums, tobacco, petroleum and oils, formalin, cresol, certain aniline colors—gallol, green malachite—coal-tar. Taking into consideration, however, the necessary larvicidal dose, the practicability, and the price, all the mineral and some of the organic substances must be excluded, and there remain the vegetable powders, petroleum, and the aniline colors. To kill the aerial mosquitoes we have odors, fumes, and gases. Among the odors, the essential oil of turpentin, iodoform, menthol, nutmeg, camphor, garlic; among the fumes, that of tobacco, chrysanthemum powder, fresh leaves of eucalyptus, quassia wood, pyrethrum powder; among the gases, sulphurous oxid. It is, however, to be noted that for these odors, fumes or gases to exercise their culicidal action they must fill or saturate the whole ambient; otherwise they produce only apparent death, or at the most only a culicifugal action.

The problem of the destruction of mosquitoes is experimentally solvable; but, practically, it will only be so when economic interest desires it. In this latter sense it is remarkable that the old larvicidal use of petroleum has not become much diffused even in those places where it is very cheap; and it is probable that those substances which destroy other aquatic creatures injurious to agriculture will be preferred, and perhaps still more those which can be had by cultivating them on the spot. For example, by growing on a large scale, the chrysanthemum plants, from which the culicidal powders are obtained, it is very probable that one will succeed in making the malarial place itself produce that substance which will free it of the mosquitoes that infest it. The opportune season for killing the larvæ is the winter, when they are in least number in the waters, and new generations are not born; consequently, this is the time most easy for attacking them. Destroying mosquitoes in houses is always possible, but to have the greatest effect it is also best to do it in the winter, when they all take refuge in inhabited places, or wherever else they repair. The more complete knowledge of their habits—that is, of the places where and the season when they nest—will aid very much the success of this destruction, which, even in the most favorable cases—that is, when hydraulic improvement will have

exhausted its task—will not be such an easy work on a large scale as some persons believe and boast.

81. **Intestinal Antiseptics in Typhoid.**—Pearson combats the notion that typhoid fever is to be treated with intestinal antiseptics, claiming that the disease is a systemic affection due to a toxin, and not a local disease.

90. **Digitalis in Heart Disease.**—Washburn points out the uses of digitalis and its dangers. He does not think that it is a dangerous drug in aortic insufficiency, and its cumulative action is not especially different from that of other powerful drugs. It is used, however, in cases where it may do more harm than good, and chronic digitalis poisoning is sometimes produced, while the only result is to overwork and finally weaken the heart. The general principles that are to guide us in the use of this agent are that a tonic dose improving the heart's nutrition and energy, is a moderate one, and this dose should only be repeated after a sufficient interval. If the dose be excessive, or the interval between the doses too short, the most unfavorable results may follow. It may be laid down as a good general rule, that to give one grain of the powdered leaves or its equivalent once in twelve hours is a sufficient normal dose and may be continued for months and years without damage, when it is indicated. In some cases of acute onset of heart failure, larger and more frequent doses may be required, but the patient should be carefully watched. He says: In conclusion, then, digitalis is seldom required in chronic valvular disease during the period of complete compensation. When the stage of broken compensation is present it is urgently demanded, in all forms and combinations of lesions, in proportion to the degree of cardiac weakening. When given in doses of more than 2 or 3 gr. of the powdered leaves, or the equivalent thereof, in the twenty-four hours, symptoms of saturation are to be anxiously watched for when from 30 to 40 gr. have been administered, and the drug discontinued for a few days or the dose reduced as soon as they appear. The drug is thereafter to be continued in tonic doses. Finally, tonic doses of digitalis are always useful in the treatment of weak, neurotic hearts.

91. **Europhen.**—Waugh reviews the opinions expressed by various authority as to the value to europhen, and gives his own experience with the drug, which is a favorable one.

93.—See abstract in JOURNAL, June 24, p. 1449.

94. **Digestion in Melancholia.**—Bell reports the results of analyses of the stomach contents in twelve cases of acute melancholia, after a test breakfast consisting of 2 ounces of white bread and 10 of cold water. The stomach contents were removed an hour and a half later, by the expression method of Ewald, using Tiemann's stomach-tube and filtering. A large number of tests were made and the methods are given in detail. The results show that in every case there was a marked departure from the normal. In several cases there was a total absence of free HCl, and in a greater number of cases considerably too much of it. The medical indications were marked, but have not yet been fully worked out, though the results have afforded some encouragement. He concludes his paper with general remarks on treatment, especially lavage of the stomach.

95. **Stricture of Esophagus.**—Aaron discusses the cause of esophagus stricture, and describes an instrument he has devised for electrolytic treatment. He reports three cases treated in this way with good results, and in concluding gives the following suggestions as to sounding the esophagus: 1. A careful examination should always be made so that an aneurysm may be excluded. 2. A medium-sized soft rubber stomach-tube should always be the first tube introduced. Smaller ones, down to catgut, can then be used if necessary. 3. Patience will accomplish more than force. 4. If on the removal of a soft stomach-tube we should find no mucus or blood clinging to the tube, then only is it safe to use stiffer tubes. 5. Trousseau's olive-pointed sounds are valuable in the locating of a stricture. 6. The distance of a stricture from the upper incisors is valuable in locating and determining the cause of the stricture. 7. As soon as a soft tube can be passed through a cicatricial stricture, electrolysis can be employed, the negative pole in the stricture, the positive pole on the side of the xyphoid cartilage. Electrodes should be of greater caliber at each successive treatment.

96.—See abstract in JOURNAL, May 27, p. 1171.

97.—Ibid, May 6, p. 995.

100.—Ibid, June 10, p. 1321.

106.—This paper appeared elsewhere; see JOURNAL, October 28, title 158, p. 1088; also abstract, p. 1102.

107.—See abstract in JOURNAL, October 21, ¶ 153, p. 1036.

108. **Diplococcus Scarlatinae.**—Class describes a form of microbe resembling a very short bacillus or an elongated diplococcus, which occurs occasionally in cultures of the diplococcus scarlatinæ. It is rarely present in primary cultures, and he believes that it is only one of the many forms of the scarlatina germ and not a separate species, because: 1. It has been impossible to isolate it, although numerous attempts were made to do so. 2. He has never found it except in cultures of the diplococcus scarlatinæ. 3. It is very seldom found in primary cultures of this organism, occurring as a rule in subcultures, in which the large diplococcus has divided into smaller organisms. 4. When a culture of the diplococcus containing this form was injected into mice, the organism obtained in primary culture from its blood and organs was a diplococcus which did not show this form, although in subcultures it again appeared. 5. In subcultures made from cultures in which this form was present in comparatively large numbers, it was not found, thus showing that it could not have a separate existence. 6. The mode of division of the diplococcus into these diplobacilli can be seen in stained specimens of the organism.

110.—See abstract in JOURNAL, October 14, p. 976.

111.—See abstract in JOURNAL, July 8, p. 101.

113. **Tuberculosis of Bones and Joints.**—The conditions of bone and joint tuberculosis are first mentioned by Mayo, and he states the method of treatment employed by him in cases of young people showing the incipient symptoms. Two methods are used which have given equally satisfactory results: One is to make an incision down to the bone, separated by retractors and protected by wet gauze, then penetrating the bone with a fine Pacquelin cautery to evacuate pus, then filling the bone cavity with iodoform powder and closing the external wound without drainage. The second is to use a drill or gouge to locate and remove the disease, with similar treatment of the wound and closure. When the disease has progressed to more pronounced destruction, and there is an excess of fluid in the joint, no treatment has given as good results as the injection of a 10-per cent. iodoform emulsion in glycerin, into the synovial sac after expelling its contents by means of a trocar and canula, the method advanced by Billroth and Mikuliez and advocated by Senn. The glycerin mixture is better than any other preparation in these cases, according to his experience. No splint is used after injection, but the punctured wound is sealed and the ordinary septic dressing applied, and if the joint is in the lower extremity, the patient is kept in bed about four days. There is considerable reaction at first and pain, requiring the use of morphia. After four days he urges the use of the joint, and repeats the injection in two or three weeks, and in most cases secures marked improvement after three or four repetitions. There is a class of tubercular joints, with great excess of periarticular thickening, which are not benefited by this or any other treatment but excision, etc. This evacuation and injection treatment is used in nearly all so-called cold abscess cases, especially those resulting from tuberculosis of the vertebræ, but it is useless in cases of mixed infection or open sinuses which require free drainage and complete removal of the diseased tissue.

115. **Senile Diseases.**—Bell notices the lack of attention given to the diseases of old age, and remarks on the pathologic changes that occur in advanced life. He thinks there should be an awakening in medical instruction as to the importance of this subject, as to the normal changes peculiar to old age, and its peculiar diseases.

116. **Bone and Joint Disease.**—Gibney's paper is a comprehensive one, reviewing a large number of conditions of bone and joint disease and their cause. He speaks especially of the injuries to children from rough handling, pulling them up over the sidewalk in crossing the street, and cautions against the most trivial accidents in children recovering from infectious diseases, as then they are especially vulnerable. He alludes to the production of malignant disease by constantly repeated injury or irritation to a part. The occurrence of blood clots

in the joints from slight injuries, and the effect of such injuries in developing rheumatism and other disorders are also mentioned. He shows how the neurologist is of aid to the orthopedic surgeon in the diagnosis of paralyses and their relief. He speaks at some length in regard to Pott's disease, typhoid spine, which consists of tenderness or pain on pressure or movement without deformity, relieved promptly by treatment, such as with the Paquelin cautery, adhesive strips, etc., and closes his paper with remarks on acute and chronic troubles in the hip and knee, especially the distinction between the acute and chronic, which is of the utmost importance. The exacerbations which occur in these conditions should not recur after the second one in tuberculous disorders, etc., and it is of importance that the disease should be recognized in time.

118. **Infectious Conjunctivitis.**—The different forms of infectious conjunctivitis are here noticed by Reynolds, who finds that they may be produced by special germs; the diplococcus, bacillus of Weeks, micrococcus Pasteuri of Sternberg, etc., together with ordinary pus-producing microbes. The milder forms of purulent conjunctivitis are those caused by the staphylococci, and the most dreaded form by the gonococcus. He points out the distinction between the different types. In the gonorrheal infection the lids are enormously swollen, chemosis is rarely absent and without treatment the cornea undergoes sloughing within the first week. In the staphylococcus forms there is rarely chemosis, especially in those due to the albus, and simple normal salt solutions, or a mixture containing borax and carbolic acid may be sufficient. With the staphylococcus aureus, treatment should be a little more vigorous. In some cases the irrigation may be repeated at intervals of ten minutes for two or three days and nights. In the gonorrheal type a more efficient irrigation may be made by dissolving chlorid of sodium, 3 oz., bichlorid of mercury, 8 gr., and carbolic acid, .5 dram. This should be filtered before using. With this the eye may be irrigated every ten minutes from the very beginning of the attack, and if the treatment is commenced before corneal or conjunctival abrasions occur, they will not be likely to occur later. There is always some danger in the case of infants, and the nozzle of the irrigator should never be allowed to come nearer to the eye than one inch. To perform the irrigation properly, two persons are required, the patient being on his back, one to evert the lid and hold a mass of absorbent cotton to the temple to catch the discharge, while the other manipulates the irrigator. The chief thing in all cases of conjunctivitis is thoroughly cleansing and washing away the accumulated matter. The therapeutic agents most in favor in addition to those already mentioned are nitrate of potash with hydrastis, formalin 1 in 2000 or 1 in 4000, nitrate of silver 1 in 2000 or 1 in 4000, corrosive sublimate 1 in 1000 or 1 in 10000, and a saturated solution of boric acid. Better results are obtained with all these than with the old method of daily cauterization and the use of astringent eye washes.

120. **Nasal Lesions in Asthma.**—First noticing his conception of asthma as a spasm of the bronchial apparatus excited through hyperesthetic conditions produced by disease, also commonly existing in some other organ from which the irritation seems to start, Swain takes up the diseased conditions of the nose that may thus act as exciting causes. He states the pathology in detail, as he conceives it: 1. The existence of simple nasal hypertrophy in the nervously hypersensitive individual. The vasomotor instability and the nerve irritability cause further development of the lesions of the middle turbinate region and eventually an edematous hypertrophy which may become a polyp. These lesions produce pressure over sensitive areas which, by constant irritation become more sensitive so that reflexly there is produced a bronchial vasomotor disturbance. If once the reflex avenue has been opened it is easy to see that the disturbance, which is felt first as a sort of oppression in the chest, becomes later a genuine obstruction to breathing and with, in addition to this, a spasm of the bronchial tubes, we have a full-fledged asthma. This explains the essentially nasal cases of asthma. There are other cases apparently not nasal, but which are nevertheless improved by removing the existing nasal disease. These patients only have their trouble under special conditions, such as indigestion, cold, rheumatic attacks, and menstrual periods. These apparently work through the vasomotor link in the chain. There are still otner cases which baffle us entirely to give them a cause, but once in a while, as in one of the cases here reported, where a change from a musty feather to a hair pillow relieved the patient, we find an etiologic factor sometimes entirely outside of the ordinary run of causes. Sometimes only change of scene will be effective, and the author therefore deduces that when treating many of the pathologic conditions in the nose, attended or not with asthma, we must often look outside of the organ and frequently outside of the body altogether for the causes that lead up to them.

121. **Death from Electric Currents.**—In the first part of this paper, published last week, Cunningham shows that electricity kills through the heart and not through asphyxia, as a rule. He continues the subject, detailing experiments, and gives his conclusions. He does not apparently favor the electrocution methods now employed as being in the best sense of the term actually humane. He thinks it possible that consciousness is not entirely lost, though there may not be pain, and the use of the strong currents has produced local effects of the skin and tissues, which are not desirable in a humane execution.

124. **Alcoholism.**—Remarking first that alcoholism is readily amenable to proper medical treatment, Douglas claims that the alcohol should be withdrawn gradually, and that its sudden withdrawal is the principal cause of delirium tremens and death. He maintains that it is a disease of the nervous system, and that individual idiosyncrasy is one of the chief features. The statement that 2 ounces of alcohol a day is a food may be true as to some individuals, but as the statement of a universal law it is absurd. The principal point in his paper, and the one for which he claims originality, is the use of apomorphin in minimal doses not sufficient to cause vomiting as a means of producing sleep in these cases. He says also that it seems often to act almost as a specific in relieving the alcoholic craving. He mentions the nitrate of strychnin as an excellent remedy, though it should be given in smaller doses than the text-books usually recommend. The hypodermic needle is the best method of administering.

125. **Abscess of Epiglottis.**—Howell reports a case to show that perichondritis of the epiglottis may result in abscess. In this case the tumor was excised and nearly a dram of yellow pus discharged. After healing, the surface was dimpled, the lateral curvature flattened and the tip bent forward. In about ten days the epiglottis again appeared in its normal position. The cause was apparently unknown.

126.—See "Therapeutics," page 1153.

127. **Cancer of Mammary Glands.**—The increase of cancer is recognized by the author, who gives 81.66 per cent. of all mammary tumors as cancerous, hence the importance of an early diagnosis. When the cancerous process is strictly local, before axillary involvement has occurred, 50 per cent. should be the lowest figure for cures. In cases of the second degree with undoubted axillary involvement, adhesion between the tumor and skin, but the breast as a whole movable, showing that basal adhesions do not exist, the tumors are operable and a reasonable percentage curable. Of Bull's cured cases, 40 per cent. had unmistakable infection of the axillary glands. In those of the third degree, where there is not only axillary infection but the glands have coalesced, the breast only partially movable, if at all, the skin extensively infiltrated, and supraclavicular glands enlarged, only a very small percentage are curable and operation should be resorted to only after a careful examination of all the favorite sites for metastasis. The evidence of such is a sufficient contraindication. Too many operations are done in such cases as this. Rodman believes that with the increasing frequency of cancer, it is occurring in younger individuals than was formerly the case. He thinks that early operations will cure at least half the cases operated on.

130. **Heroin.**—Einhorn gives his experience with heroin, and believes it to be a very valuable therapeutic agent in allaying cough and easing respiration—possessing also general analgesic properties which render it of benefit in most painful affections. The only unpleasant symptoms he has seen from its use are slight dizziness and dryness of the throat.

133. **Treatment of Leprosy.**—The case here reported is that of a woman aged 36 years, in whom diagnosis was made independently by first-class authorities, and who was treated

with injections of Calmette's antivenene serum, beginning with injections of 2 c.c. daily, increasing gradually to 40 c.c. She was also kept on large doses of hoangnan, and her hygienic surroundings carefully attended to. At the present time there are no ulcerations remaining nor any tubercles, and the nasal secretions are greatly diminished. The anesthesia of her extremities is diminishing to a marked degree, and the change in general appearance is noticeable. He does not attempt to give definite conclusions thus early, trusting to be able to do so in the future.

134. **State Care of Consumptives.**—Meyer's article is a description, with illustrations, of the Massachusetts State institution, and a plea for the establishment of similar sanatoriums elsewhere.

135. **Drainage in Appendicitis.**—Suppurations about the appendix are divided by the author into two classes; those in which the abscess is localized, being shut off by adhesions, and those in which the general abdominal cavity is more or less infected. In the first class he would use drainage; in the second, he believes it not only useless but harmful, and would substitute in its place the filling of the abdominal cavity with saline solution, thus diluting the poison and vastly increasing the area of the peritoneum which is called on to resist it. He reports two cases, neither of them giving a favorable prognosis at first, which were treated by this method with success.

139. **Functional Heart Disease.**—By functional heart disease is understood those cases in which patients complain of palpitation, rapid action and pain in the region of the heart, while careful physical examination gives no reason to suspect organic disease. Many of these cases are undoubtedly due to faulty innervation. The symptoms referred to above may be varied in character, and there may, in rare instances, be retardation of the heart's action. Jackson considers that these cases are much more frequent than organic disease; he attributes them to disturbances of puberty, the use of stimulants and drugs, etc., and notices among them false angina pectoris the cause of which he thinks may yet be found in some pathologic condition. It is distinguished from the true angina pectoris by the frequency of the attacks and their long persistence without any evidence of disturbances of the heart in the intervals.

140. **Responsibility of Doctor in Making of Wills.**—Jelly urges physicians, when called on to sanction the execution of a will or to sign as witness, to thoroughly examine the patient's capability and the will itself. If such examination is not permitted, he would be better out of the case when the will is accepted for probate. If his refusal is objected to, he should state the delicacy of his position and the importance attached to his testimony by the judges. In most cases it will then be permitted.

144. **Diseases of Stomach.**—Hoffman describes the methods of treating the conditions of the stomach, and suggests that they exist for some time in their first stages before any symptoms are observed. He thinks it would be well for patients to have their stomachs examined at regular intervals, as some do their lungs, uterus, etc. This is especially important as

## FOREIGN.

### British Medical Journal, October 14.

**Treatment of Fever Following Delivery, with Special Reference to Serumtherapy.** HERBERT R. SPENCER, ARNOLD W. W. LEE, R. H. ANGLIN, WHITELOCKE and others.—First noticing the different forms of fever which may occur in the puerperal condition, Spencer takes up the subject of puerperal fever, properly so-called, which is met with under the forms of acute fatal septicemia; lymphatic septicemia, the common form, characterized by rigor at the onset and septic peritonitis, and venous septicemia, with a succession of rigors, septic phlebitis, and frequent secondary deposits. A sloughy condition of the placental site is generally met with in the last two forms, with abscesses in the uterine wall. Mild cases of puerperal fever are met with, as sapremia or poisoning by the chemical products of micro-organisms, and local infection of the peritoneum, cellular tissue and veins. The most important point in treatment is prophylaxis, which is met by careful management, especially in the third stage and thorough antiseptic precautions. As regards the actual treatment, he thinks that in a general way septic substances in the uterus should be removed, though it occasionally happens that it is better to leave them alone. After emptying the uterus he usually irrigates it once with a solution of iodin (tr. iodin 3i, aqua Oi), a weak solution of perchlorid of mercury or carbolic or boric acids or a large quantity of salt solution. Continuous irrigation is certainly useful in cases where some adherent tissue has to be left behind, but it is very irksome to the patient and likely to produce sores, so he has practically abandoned it. All forms of intrauterine irrigation are attended with some risk. He rarely employs gauze for draining the endometrium. The cases where removal of the uterus is advisable must be very few, such as carcinoma or fibroids which can not be enucleated. He deprecates the use of antipyretics and advises tonics, stimulants, fresh air and ample feeding. In conclusion he speaks very discouragingly as to the prospects of serum treatment. Lea gives two cases of puerperal septicemia due to streptococcus infection, carefully reported with full bacteriologic examination. One died and the other recovered. He thinks that the bacteriologic examination is important in such cases, and suggests that cover-glass preparations of the uterine secretions be prepared and the diagnosis confirmed by cultures.

**Natural Menopause Compared with Menopause Produced by Removal of Uterine Appendages, and That Produced by Removal of Uterus Without Removal of Appendages.** J. BLAND SUTTON, J. STUART NAIRNE, JOHN W. TAYLOR and others.—The subject of the artificial menopause and the advisability of removal of the uterus or the appendages is discussed by Bland Sutton, who favors the removal of the uterus rather than the ovaries where choice is possible. In case of removal of the uterus he does not discourage marriage; in the other case he does.

**Sixteen Cases of Procidentia and Two of Prolapse of the Uterus Treated by a New Method.** J. INGLIS PARSONS.—The author here describes a new treatment which he has used for cases of procidentia uteri on the principle of helping Nature by causing an effusion of lymph in the broad ligament. When falling of the uterus takes place the process is usually very gradual and the formation of lymph is not encouraged or stimulated. To bring this about he has been led to employ a solution of quinin injected into the broad ligament through the vaginal wall. There is little danger, he thinks, if the right point is selected, of touching the arteries or veins or ureters. The outer two-thirds of the lower half of the broad ligament contains no veins or arteries of importance, contrary to the illustrations often given in text-books. "The patient is placed in a lithotomy position. The vagina, which has been thoroughly douched for some days before, is washed out with a solution of hydrarg. perchlor., 1 in 2000. The rectum has, of course, been emptied as well as the bladder. The posterior wall of the vagina is pressed down with a Sims' speculum, while the anterior is held up by a retractor. Even then, in some of those severe procidentia cases, such as Case X, in the list, the extreme dilatation of the vaginal walls will allow them to roll together in folds and block the view of the cervix. Under these circumstances two lateral retractors are required, as well as the other two. The injection is now made on each side through the vaginal wall, taking care that the direction of the needle is perpendicular to the base of the broad ligament. The syringe which I employ has a long, straight, rather thin, but rigid nozzle, so that when it is passed into the vagina the light is not excluded. The needle is about an inch in length and rather thicker than a hypodermic. Before the injection is made it should always be tested, because the quinin solution is very apt to cause corrosion, and it may then snap off short. If the patient has not taken an anesthetic she will hardly feel the prick of the needle, but as soon as the injection of quinin begins some pain is felt for a few minutes, the severity of which varies in different individuals. This might be obviated by the injection of eucain. The operation is now over. Before the patient is lifted into bed, the uterus should be well anteverted bimanually. A cup-and-stem India rubber pessary secured by tapes and a band around the waist, is inserted so as to keep the uterus well up until the effusion of lymph has taken place. It can be removed at the end of

four or five days, as the uterus is then held up by the effusion. The strength of the sulphate of quinin solution is important. If too strong it will cause suppuration and if too weak it will not give sufficient stimulus to repair the ligaments. I began with a strength of 1 in 4, that is 1 grain of sulphate of quinin to 2 minims of acid sulphate dil. and 2 minims of water. This I found was a little too strong; I then tried 1 in 6, and this was rather too weak, and accounts for the recurrence of procidentia in Case 2. For the past twelve months I have used a solution of 1 in 5. The amount of this which is injected will vary of course according to the severity of the case; but the average amount which I use is 30 and 40 minims for each injection. There is always more reaction after a second injection than the first, although the amount of fluid injected is precisely the same. When more than one injection is required an interval of at least three weeks or a month should be allowed before the second is made. If done earlier there is likely to be a rise of temperature and more local disturbance than is required." He reports eighteen cases treated by this method.

**Treatment of Uterine Cancer.** THOMAS MORE MADDEN.—Madden thinks that too much attention is now given to hysterectomy as a curative procedure in contradistinction to early amputation of the cancerous cervix. As regards the latter, he can speak from experience, and he thinks the results are, on the whole, more favorable. In a number of cases operated on by him there has been no recurrence after many years. As regards non-operative treatment, he has seen some little benefit from the electrolytic treatment suggested by Apostoli and others, but is not very much encouraged. In one case the actual cautery seemed to at least relieve. He has found, in cases where only relief from pain and prolongation of life is expected, some good from escharotics, chlorid of zinc being the most effective, safest and least painful. Other agents mentioned are celandin, local injection of absolute alcohol, and methylene blue. The last he has frequently employed as a local analgesic.

**Syphilitic Factor in Diseases of Women.** JOHN A. SHAW-MACKENZIE.—The author here calls attention to the syphilitic factor in female diseases, which is often unrecognized, and the value of mercurial treatment where there is a possibility of syphilitic infection.

**Chronic Suppuration of Frontal Sinuses: Diagnosis and Treatment.** CHARTERS J. SYMONDS, E. J. MOURE, LUC and others.—As regards diagnosis of frontal sinus suppuration, Symonds holds that where polypi are numerous and pus abundant, the maxillary sinus is usually diseased; that when the frontal alone is involved, the polypi are fewer, the pus less, and rarely if ever foul; that in pure frontal cases, pus does not reappear on hanging the head forward; that in pure frontal cases with a wide middle meatus, granulations are confined to the anterior extremity of the middle turbinal, and the appearance of pus here with a free meatus is diagnostic; that in most cases a canula can be passed into the sinus, and the cavity washed out, though this may necessitate removal of the anterior extremity of the middle turbinal; that when this last observation can not be made, exploration must be conducted through the brow. Where suppuration in the nose and an external swelling exists, as in one of his cases, the diagnosis is obvious. When, again, as in three of his cases, suppuration exists in the nose, and there is an external and spontaneous opening, no doubt can exist. As regards treatment, he says that with simple cases where intranasal methods have failed, it will be enough to carefully wipe out the pus and clean the walls, insert iodoform and close the wound, the frontonasal aperture not being enlarged. Where polypi are found, the orifice should also be enlarged, and the wound then closed and intranasal irrigation employed for a few days. If this is impracticable, a silver or aluminum style must be introduced into the cavity, removing it for irrigation and finally withdrawing it permanently. Moure gives the following points as to diagnosis. The probable signs are: 1. Unilateral discharge of pus, seen on rhinoscopic examination after the antrum has been thoroughly cleaned by irrigation. 2. Growths in the upper part of the infundibulum in the direction of the nasofrontal canal, and dilatation of this canal giving free access to the sinus, supraorbital pains, spontaneous or on pressure. Certain signs are: 1. Temporary or permanent swelling over the frontal sinus, or the presence of a fistula in that region. 2. The flowing away of the pus after irrigation, when that is possible in the frontal sinus. 3. Darkness on transillumination, as compared with the opposite side—absence of the sinus, fortunately rare, also gives rise to this sign. The differential diagnosis between frontal empyema and that of the anterior ethmoidal cells may be difficult, but injection and transillumination will generally suffice to solve the difficulty, and it is worth remembering that ethmoidal growths are generally situated farther back than those coming from the frontal sinus. He also remarks that the treatment depends on whether the case is a simple mucous form or complicated with growths or fistula. If the antrum is involved, it should be first treated.

**Lancet, October 14.**

**Typhoid Fever of Unusual Duration; Perforation of Cecum and Peritonitis; Operation; Recovery.** HERBERT P. HAWKIN and E. O. THURSTON.—The authors here report a case where the disease continued for 116 days or more. Another point of interest is the absence of the Widal reaction until nearly the close of the attack. The perforation was operated on on the forty-first day.

**Indian Medical Gazette (Calcutta), September.**

**An Unpigmented Hemameba Found in Chronic Malaria.** C. F. FEARNSIDE.—The author published an account of an unpigmented protozoon found in chronic malaria in the prisoners of the Rajahmundri Central Jail, India, and describes and illustrates it in detail. It does not show pseudopodial movement but, when small, it oscillates incessantly. It might be mistaken for an ordinary air vacuole in a red cell, but for its constant movement and contractibility. He thinks it is not the same as the eye forms described by Ross, which were similarly found in several cases of malaria.

**Bulletin de l'Academie de Medicine (Paris), Sept. 26, Oct. 3.**

**New Facts in Regard to Apparent Death.** J. V. LABORDE.—The official reports are given of fourteen "actual resurrections" accomplished this summer by means of rhythmic tractions of the tongue in the case of drowned persons who had been under water much longer than the extreme limit—six minutes—in which resuscitation is possible with any other method. No cases are cited except those in which the subjects had been under water ten to twenty minutes, or had been asphyxiated with illuminating gas "a long time." The length of time during which the vital properties may remain latent is therefore much longer than has been hitherto accepted and Laborde asserts that it is possible to restore life to persons apparently dead, by these tractions of the tongue kept up regularly and persistently for fifteen minutes to an hour, or if necessary for three hours, which he has established as the extreme limit of the duration of apparent death. He has invented an apparatus for life-saving stations, etc., which automatically makes the tractions, although it was not used in any of the cases related. Experiments on animals showed the blood to be full of carbon dioxid, but never coagulated and never below a certain temperature in this apparent death. The heart is only temporarily arrested, and slight tremulations in the myocardium can be distinguished. As respiration is reestablished the organ recommences beating with energy. The same phenomena probably occur in asphyxiated persons.

**Revue de Chirurgie (Paris), August 10.**

**Imperforation of Rectum and Vagina.** P. BERGER.—These imperforations have only been noted associated in a few rare cases. In the observation related there was imperforation of both anus and vagina, the rectum opening in the perineum. The girl was first provided with an anus and several years later, when symptoms of retention of menstrual discharge became apparent, the vagina was opened. Both operations were completely successful; the patient retains fecal matters, even liquids and gas, and as far as the vagina is concerned there is nothing now to prevent normal sexual life. Berger adds that accidents due to retention of menstrual blood are the only justifiable indication for operation in cases of absence of development of the vagina. It can be said that up to the present time all attempts to create a vagina, when it did not exist, have been miserable failures. The autoplastic processes devised for this purpose have all terminated lamentably, and

the patients have always renounced the use of the artificial vagina after a long or shorter period. But the conditions are entirely different when a vaginal ampulla already exists around the cervix as in this case, distended by accumulated menstrual blood. Although it was fully 6 cm. distant from the vulva, it was readily drawn down and sutured to the opening in the vulva.

**Rhinoplastics on a Metallic Frame.** C. MARTIN.—Since this method was proposed by the author, in 1889, he has more definitely established the conditions for success: 1. The pathologic process, syphilis of the nose, for example, must be entirely healed. 2. The flap taken from the side of the forehead into the hair must be large enough to allow for subsequent retraction. 3. There must be a sufficiently solid subseptum for a firm support. 4. The surrounding bone must be healthy enough to afford a firm hold for the metal frame. Poncet's case is still in perfect condition after thirteen years, and many other cases have proved equally successful when the above conditions were observed. In one case the continuation of the morbid process caused the sinking of the entire nose level with the face, the frame lodging in the fossæ but causing no disturbances.

**To Find the Posterior Sacral Foramina.** MERIEL.—The surgeon will be much assisted in operating on the sacrum by the diagram outlined by Meriel as the average of twelve subjects. A vertical line is drawn from the first sacral apophysis through the second, and 5 cm. farther. A horizontal line at right angles to the vertical line, where it starts, at the first apophysis, carried 2 or 3 cm. to the right or left, ends exactly over the first foramen. For the second foramen, the horizontal line is carried in the same way from the second apophysis 2.5 cm. to the right or left. For the third, the horizontal line starts from the vertical line 3.5 cm. below the second apophysis, and coincides with the center of the foramen 2 cm. from the vertical line. The fourth foramen is found by drawing a horizontal line 2.5 cm. in length from the vertical line at a point 5 cm. below the second apophysis.

**Semaine Medicale (Paris), October 11.**

**Bed Treatment of Acute Mental Disorders.** P. SERIEUX.—"Clino-therapy or treating insane patients by keeping them in bed day and night with a few brief intervals, inaugurates a new era in the history of medicine of the brain, the importance of which can not be over-estimated." Repose in bed moderates and regulates the heart-beat and respiratory movements, raises the arterial pressure, lowers the central temperature, diminishes the destruction of the red corpuscles, retarding the processes of intracellular oxidation and hence of disassimilation. It transforms our asylums from bedlams and prisons to orderly hospitals where patients are treated and cured, instead of merely incarcerated. The freedom from noise and excitement in a room where all the patients are in bed, favors to a remarkable extent the rest needed by the overtaxed brain. In some asylums it is the rule to keep all newly-arrived patients in bed a few days. Massage, electricity and the permanent bath are valuable adjuvants as indicated. The room should open on an enclosed veranda where the bed could be wheeled as desired. No force of any kind should be used, although a hypnotic may be required at first until the patient gets the habit of remaining in bed. A mattress on the floor with padded sides about three feet high may be required at first for very restless patients. As improvement progresses the patients can sit up and stroll in the garden more and more. Two months is the extreme limit for this treatment. It is particularly effectual in soothing and curing acute mental disorders of recent origin and acute stages of chronic affections, delirium from morphin, alcohol, epilepsy, etc. If the patient does not wish to remain in bed he should be persuaded that he is sick, that rest is necessary, or divert his attention with a little food or a newspaper. Frequently the presence of the nurse seated at the bedside, holding his hand, will banish the idea of getting up. If he insists, allow it until the acute restless stage is past and then coax him back to bed. The patients are actually in bed, not merely sitting up, and only get up at first for half an hour in the morning to go to the toilet-room or for a few minutes in the garden.

**Archiv f. Gynækologie (Berlin), lix, 1.**

**Failures of Operative Treatment of Tuberculosis of Peritoneum.** O. WUNDERLICH.—Four patients, out of 10 thus operated on, died within three months; 3 grew worse and only 3 were found in good general and local health when examined later. Of the five hundred cases of tuberculosis of the peritoneum on record, there was effusion in 68.8 per cent.; fibrous adherences in 27.2 and suppuration in 4 per cent. Clinical recovery—three years of observation at least—occurred in 23.3 per cent. of the cases with ascites, and in 9.8 per cent. with those of adherences. Nine died out of 20 cases with suppuration. Anatomic recovery was established in 19.

**Berliner Klinische Wochenschrift, October 2.**

**Five Weeks of Profuse Discharge of Cerebrospinal Fluid Without Cerebral Phenomena.** A. LUCAE.—In operating for a chronic otitis of the middle ear, on a boy of 17, with caries of the bony wall, and removing a sequester, the cerebrospinal fluid gushed out in such quantities that the operation had to be postponed for five weeks. There was no fever, no vertigo, no alteration in the pulse and recovery was uneventful, although slow. Evidently there had been an excessive production of the fluid.

**Periodic Swelling of Parotis.** G. FREUDENTHAL.—A young woman with no indications of nervous trouble has been affected for years with an occasional swelling of the parotid gland, reaching its maximum in a few minutes and retrogressing in half an hour; no itching, no increased salivary secretion. Her husband is a neurasthenic and he also is frequently affected with a similar swelling between the ear and lower jaw which spontaneously appears and disappears in a day or so. Hysteric contagion is the probable etiology in this case.

**Deutsche Medicinische Wochenschrift (Berlin), October 12.**

**Experimental Research in Intestinal Anastomosis.** M. KATZENSTEIN.—Numerous tests are described in which the intestines of rabbits were divided and then united with a very few stitches, the cut ends strewn with "gluten casein," which induced numerous and solid adherences to form, rendering the union perfect and water-tight in a remarkably short space of time. This chemotactic action of gluten-casein can be utilized in a number of ways. The adherences produced differ from those of ordinary peritonitis and are ideal in every respect from a surgical standpoint.

**Multiple Cystic Degeneration of Kidneys and Liver.** STEINER.—There is projection below the ribs in a most remarkable manner with this affection, the diameter much larger than the diameter of the thorax, and knobby protuberances are felt in the liver and throughout the region where we are accustomed to palpate the kidneys, extending up under the costal arch and down into the small pelvis, not painful on palpation. Steiner has had occasion to observe two advanced cases and a number of others, all belonging to two families. He therefore calls attention to its essentially hereditary character. The tumors are congenital and can be distinguished by the age of 10, but only commence to develop alarmingly in middle life. They do not commence simultaneously on both sides; one side may be very much earlier than the other, and mistaken for a malignant neoplasm. The distinction made by anatomists between congenital and acquired tumors is refuted by these facts, but Cohnheim's theory in regard to the congenital foundation of certain tumors is strengthened. The affection is progressive and we have no means of arresting it. Therapeutics must be limited to the same internal treatment as for shrivelled kidney. Incision is inadvisable, as it would not reach all the cysts, and dangerous on account of the precarious condition of patients. There is also liability of a fistula which would prove an unnecessary annoyance. Cysts were found in the liver in eighteen out of sixty-three cases observed by Lejar.

**Zeitschrift f. Diaet. u. Phys. Therapie, iii, 4.**

**Apparatus for Control of Radiographs.** HANS VIRCHOW.—Two identical, parallel, adjustable frames of lattice work are arranged with the distance between them corresponding to the thickness of the body being radiographed. The difference between the shadow cast by each will prove a valuable assistance in correctly appreciating the variations in the depth of the shadows and the enlargement due to distance from the plate.

**Fat Diet and Motility of Stomach.** H. STRAUSS.—The conclusions of much experimental and clinical research in this line are that the ingestion of large amounts of fat within

certain limits and with appropriate selection of the fat—cream—does not unfavorably affect the motility of the stomach beyond what is compensated by the diminished volume with the increased calories of the fat in comparison to albumin and carbohydrates.

Policlinico, September 1.

**Explanation of Cure of Tuberculous Peritonitis by Laparotomy.** U. ARCANGELI.—It seems to be established that laparotomy confers on the subject a sort of aptitude to attenuate or destroy the Koch bacillus not only in tuberculosis lesions of the peritoneum but also of those of the abdominal viscera and even extra-abdominal tuberculous foci, that is, it produces a more or less complete immunization against these microbes. Arguments in favor of this assumption are the presence of tuberculin in the serum of tuberculous subjects—Devoe—the bactericidal and agglutinating properties of their serous effusions, and the success obtained by Gilbert and Scarpa with hypodermic injections of 2 to 10 c.c. of pleuritic serous fluid in cases of acute serofibrinous pleurisy, the serum derived from the patient himself. Arcangeli has applied this autoserous fluid treatment to five cases of tuberculous peritonitis with the result of curing two. The diuresis was very much increased; the ascites diminished and complete recovery followed the evacuation of a portion of the peritoneal effusion by simple puncture. He adds these facts to the better results of laparotomy without irrigation and drainage, and concludes that the benefit of laparotomy in these cases is due to the autoabsorption: absorption of the fluid effusion, caseous matters and tubercle substance. The autoserum method failed in two of the patients and was doubtful in a third, inducing in one a pleuritic effusion with fever. He, therefore, considers it dangerous on account of the possibly noxious properties of the fluid and not destined to supplant laparotomy, although it has contributed to explain the action of the latter.

# Societies.

## COMING MEETINGS.

Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, November 14-16.
Oklahoma Territory Medical Society, Guthrie, November 16.
Southern Surgical and Gynecological Association, New Orleans, La., December 5-7.
Western Surgical and Gynecological Association, Des Moines, Iowa, December 27-28.
Indian Territory Medical Association, Wagoner, December.

**Military Tract Medical Association.**—This Association has just closed its sixtieth annual session, at Bushnell, Ill. The newly elected officers are: president, E. M. Sutton, Peoria; secretary and treasurer, C. B. Horrell, Galesburg. Kewanee is to be the next meeting-place.

**Chicago Gynecological Society.**—The following officers were elected at the last meeting of this Society: president, T. J. Watkins; vice-presidents, Reuben Peterson and L. Frankenthal; treasurer, A. H. Foster; editor, Charles S. Bacon; pathologist, Emil Ries; secretary, W. H. Rumpf.

**Medical Society of Virginia.**—The thirtieth annual session of this Society was held October 24-26, in Richmond, Va. One of the principal topics on the program was "School Hygiene," the papers thereon being replete with suggestions for legislative correction of the existing conditions in the state. Besides a number of papers on other topics, there were clinics at the Medical College of Virginia and the University College of Medicine.

**New Haven County Medical Association.**—At the semi-annual meeting of this association, New Haven, Conn., recently, officers were elected as follows: president, Carl E. Munger, Waterbury; vice-president, H. S. Swain, New Haven; member to fill the vacancy on the executive committee, G. Eliot, New Haven, to succeed himself. The next meeting will be held in New Haven in April, 1900.

**Franklin County Medical Society.**—At the meeting of this Society, in Chambersburg, Pa., October 17, the following officers were elected: president, H. C. Divelbiss, Chambersburg; vice-presidents, A. Barr Snively, Waynesboro, J. C. corresponding secretary, H. X. Bonbrake, Chambersburg; corresponding secretary, H. X. Bombrake, Chambersburg; treasurer, David McClay, Chambersburg; censor, R. W. Ramsey, Chambersburg.

**Tri-State Medical Society.**—The eleventh annual session of this Society—the members being Tennessee, Georgia and Alabama physicians—closed at Chattanooga, Tenn., October 26. In addition to the scientific sessions, which were attended by the students of Chattanooga Medical College, in a body, the Society was tendered a "smoker and Dutch lunch," Dr. Cooper Holtzclaw of Chattanooga as toastmaster.

**Tri-State Medical Association.**—Mississippi, Arkansas and Tennessee physicians comprise the membership of this Association, which will meet in Memphis, Tenn., November 14, 15 and 16. It is expected that this meeting will be without a peer, from the standpoint of the number of physicians in attendance and the full program of interesting papers to be presented. Titles of papers should be sent to the secretary, Dr. Richard McKinney, Memphis, who will gladly furnish any desired information that he may be in a position to supply.

**Wayne County Medical Society.**—The physicians of Detroit, Mich., are taking a hand in local politics. Capt. A. E. Stewart, the republican nominee for mayor, is accused by certain of the prominent doctors of being unfriendly to the medical profession and of favoring "Christian Science." At the close of the regular meeting of this Society, October 26, this question was brought up for discussion, and for two hours a heated debate was held. A motion was made that a committee be appointed to investigate the position which Captain Stewart took on the late medical bill proposition, but the motion was lost.

**Medical Tribunal.**—The fifth annual session of the Medical Tribunal, which consists of a union meeting of the Eastern Ohio Medical Association, the Union Medical Association of Columbiana and adjoining counties, and the Union Medical Association of Northeastern Ohio, was held at Alliance, Ohio, recently. Resolutions on the death of Dr. E. W. Brooke, of Ellsworth, the president of the Association, were adopted and a number of addresses on subjects of interest to the profession delivered. Officers for the ensuing year will be: president, J. H. Purviance, Steubenville; secretary, M. J. Lichty, Alliance; vice-presidents, the presidents of the three sub-societies.

## New York State Medical Association.

*New York City, Oct. 24-26, 1899.*

INFLUENCE OF MEDICAL PRACTITIONER ON MEDICAL PROFESSION.

DR. JOSEPH D. BRYANT, president, delivered the opening address, taking the above subject. He sketched the history of the practice of medicine from the time when savages, out of humane motives, provided relief for their fellows to the time when priests took up the profession of the mystic art, and thence to the period when medical men became gradually recognized as a class by themselves. He showed the benefits the profession had received from the habit of meeting together, exchanging information, and laying down rules for the guidance of their conduct, and urged all members of the profession to advance the interests of their various organizations, which tended to elevate the profession and advance the knowledge of medical science.

USE OF ALCOHOL AS A STIMULANT AND TONIC.

DR. THOMAS J. HILLIS, New York City, opened with a discussion of the general use of alcohol as a beverage and its value as food. Then he passed in review the methods of the enemies of alcohol, who regarded it as a poison to the human system in doses large or small. Its careless and untimely use is often the cause of its want of fruitfulness in the sick-room, and its calamitous results on the public health have also to be considered. Still, the conclusions to which he came were that alcohol was the sheet-anchor of the intelligent and conscientious physician, when the heart is handicapped by disease, and as such is the drug par excellence in the whole field of therapeutics, and the one best able to tide it over a crisis in certain pulmonary and other conditions common to the bodily condition. In the course of his paper the author joined issue with temperance reformers, who consisted in large measure of clergymen, who knew too little, and of professional lecturers, who frequently knew too

much of the effects of alcohol. Alcohol differs from all other substances in that it is by turns a food, a stimulant, a tonic, and a poison. Two ounces of whisky diluted with an equal amount of water has a value in certain circumstances that no other substance possesses.

A lively discussion followed the reading of the paper, most of the speakers taking a view somewhat different from that of Dr. Hillis, and even those who were disposed to agree with him in part being disinclined to subscribe to all his expressions of opinion.

MEDICAL EXPERT TESTIMONY.

The evening session was given up to the discussion of the present method of securing medical expert evidence. The subject was introduced by the Hon. Willard Bartlett, justice of the supreme court, appellate division; and the other speakers were all members of the legal profession, the only medical man, Dr. Theron A. Wales, whose name was on the syllabus, being kept off by circumstances to so late an hour that he resolved to postpone his observations till some more opportune occasion. The lawyers, however, though they had the floor to themselves, were by no means unanimous. In fact, they differed as if they had been doctors. Justice Bartlett seemed to think that the matter lay entirely in the hands of the medical profession to remedy any grievances of which they complained. The present system is the growth of ages, and the best method that lawyers have so far been able to devise for sifting the truth. There is no probability of either the bench or the bar agreeing to any radical change, and least of all to that which some doctors most desire, the abolition of the right of cross-examination. Medical men are like many other classes of experts: witnesses who, in the most honest way possible, often differ among themselves, and from whom a general result satisfactory to the lay mind can only be extracted by means of cross-examination. He does not approve of the discredit which some judges are in the habit of casting on experts; but suggested that the disfavor into which experts have fallen is largely due to the practice of medical men and other professional men acting in the dual capacity of witness and adviser to the counsel on the side on which he is called. This is one of the matters in which such a body as the medical profession can perform a useful service by requiring that none of their members appear in the two rôles in the same case though recognizing their right to appear as medical advisers in cases in which they are not concerned as witnesses.

The appointment of a separate body of experts to hear and decide on scientific evidence was recommended by one of the subsequent speakers, but it did not meet with much favor.

NEED OF STATE AID IN TREATMENT OF TUBERCULOSIS.

DR. GEORGE W. GOLER, Rochester, strongly insisted on this aid and estimated that about 50,000 persons are continually suffering from consumption in New York State. A large proportion of these could be cured if attended to in time, while the provision of state institutions would put a stop to an enormous amount of infection which is now being spread broadcast by the sufferers.

SANITARIUM TREATMENT AT HOME FOR CONSUMPTIVES.

DR. S. A. KNOPF, New York City, followed with a paper on this subject. After discussion it was formally resolved that it was the duty, as it was to the interest, of the State to provide an institution for the treatment of incipient cases of tuberculosis, and a committee was appointed to prepare a leaflet for distribution among medical men, boards of health, and others, showing how checks could be put on the spread of infection, and also giving advice as to the best treatment of the disease in its earlier stages.

MORPHINISM AMONG PHYSICIANS.

DR. T. D. CROTHERS, Hartford, Conn., read a paper on this subject, in some quarters creating something approaching a sensation. The author described morphinism as the modern disease of physicians, and said it is estimated that 10 per cent. of all medical men use morphia. The causes are complex and come from conditions of living and surroundings, and neurotic defects, inherited or acquired. The defective teaching and text-books are contributory causes. The injury to the brain and nerve-centers is concealed, cumulative and very grave. Personal self-treatment is disastrous. Profound physical and psychic poisoning, which is not cured by the removal of the drug alone, is present. Often final restoration demands the withdrawal of the medical man from the profession.

PROPOSED NATIONAL BUREAU OF PUBLIC HEALTH.

A committee reported on the steps that had been taken in conjunction with the AMERICAN MEDICAL ASSOCIATION to bring about legislation to establish a national bureau of public health. The committee was thanked for its labors, and reappointed, with instructions to press the matter.

Officers were elected as noted in our "Medical News." (See JOURNAL, October 28, p. 1111.)

ADVANCE OF OUR KNOWLEDGE OF TYPHOID FEVER.

DR. HERMAN M. BIGGS, head of the bacteriological department of the City of New York, took this as his subject, and in view of the terrible devastation caused by the disease among the troops in the recent war, was compelled to admit that much is yet to be learned. He recommended the teaching of the principles of hygiene in the schools, the holding out of better inducements to medical men to look after the public health, and the adoption of more efficient measures for preventing infection.

DR. W. H. PARK, New York City, also of the bacteriological laboratory, read a paper dealing with the bacteriology of the disease.

DR. WILLIAM OSLER, Baltimore, pleaded guilty of the indictment against the medical profession for its failure to deal adequately with the disease when it broke out in the army; but he desired to place the responsibility on the proper shoulders. Those principally responsible were not the doctors who had been called on to grapple with the disease, but their teachers who had turned them out of the schools without giving them proper instruction on the nature of fevers. He ridiculed the practice so common in and about New York City, of diagnosing fevers as malarial, and said there were two works which every doctor should have at his side—those of Keen and Hare. Instead of proceeding on the Anglo-Saxon principle of considering every fever innocent of typhoid until it was proved guilty, they would do well to try the Gallic plan of considering every fever guilty until it proved that it was innocent of the charge of being typhoid.

*(To be Continued.)*

## Vermont State Medical Society.

*Abstract of Proceedings of the Eighty-sixth Annual Meeting, Held in Burlington, Vt., Oct. 13, and 14, 1899.*

FIRST DAY—AFTERNOON SESSION.

ACONITIN.

DR. F. R. STODDARD of Shelburne read a paper with this title. After giving the origin and forms of aconitin, he stated that tingling or numbness is the first physiologic manifestation, showing that the system is under the influence of the drug, and no danger can arise in treating adults if the drug is withdrawn when the patient perceives this sensation. This tingling sensation is produced by paralysis of the end organs of the sensory nerve-fibers, and is utilized in the treatment of neuralgia, hyperesthesia, sprains and contusions. In treating stubborn neuralgias it is necessary, before relief can be obtained, to push the drug in increasing doses, to the full physiologic effect.

When aconitin, amorphous, gr. 1/134, is administered every half hour, the frequency of the pulse and respirations is reduced, the arterioles are dilated, the capillaries are flushed, the blood-pressure is lowered, and all the secretions are augmented. The latter effect is shown by the moistened tongue and skin, the increased flow of urine, and if the dose is continued, by diarrhea and the vomiting of mucus.

Aconitin may be successfully used in treating all fevers, irrespective of their cause. It is not only an excellent febrifuge, but is without exception the best antipyretic known. In scarlet fever, measles, diphtheria, articular and muscular rheumatism, erysipelas and meningitis, it will give better satisfaction in the reduction of fever and in relief of pain than any other antipyretic. In asthenic cases, it should be given in combination with strychnin and digitalin.

DISADVANTAGES OF COUNTRY PRACTICE.

DR. W. S. MAY of Underhill, vice-president, presented a

paper with the above title. He pointed out that the average country practitioner is too often unmindful of his own needs and fails to realize the nature of the obligations which his brother practitioner expects him to fulfill. Interchange of thought and comparison of method is too often neglected. The country physician can hardly be said to occupy an enviable position, and yet there are factors that make up his professional life, that he would hesitate to exchange with his supposedly more favored city brother. The question in country places is often not how much can I learn, but how much can I do? Too often in the practice of medicine, as in other vocations, environment is responsible for the character of the individual, and unless ours is possessed of more than an average personal influence, the patient becomes the adviser, dictates the treatment and retains the fee. Country communities offer little inducement to the strictly modern practitioner, and to such encouragement is lacking if located within a few miles of a hospital. His education and ability may be unquestioned, and yet the hospital attracts many desirable patients, while he ekes out an unsatisfactory existence among the few who do not offer substantial appreciation. For this condition there is at present no relief. Too many country physicians are mere automatons, doing the bidding of pharmaceutic and manufacturing chemists, whose specialties are the sole materia medica, and whose therapeutics coincide with the monographs with which their table is gratuitously supplied. The country doctor seldom adds anything to current medical literature. His vocation has a bread-and-butter interest and he spends most of his time in doing and not in thinking.

LIGATURES.

DR. L. M. BINGHAM of Burlington read a paper on this subject. In speaking of asepsis and sepsis in general, he said that dangers from the infective process in most cases depend on four conditions: 1. Individual ability to resist infections. 2. Nature of the operation. 3. Perfection of technic. 4. character of micro-organisms. The first three we have under observation, but the character of micro-organisms previous to and during operation, we are in most instances unable to determine. Speedy work with the microscope, during the operation, where abscesses or abnormal fluids are found, is the only method by which we can fully determine the danger of infection.

During his service at the Mary Fletcher Hospital, from April 1 to July 1, 1899, he had about eighty operative cases, including several hysterectomies, ovariotomies, etc., and all pedicles, arteries and tissues needing ligatures were tied with sterile catgut, and all cases made good and speedy recovery without symptoms of sepsis. The catgut used was of German manufacture, and in no instance was there even a suspicion that it did not meet all required indications. All ligatures were prepared by immersion for twelve or fourteen days, in oil of juniper, then for the same period in ether, and finally by boiling in absolute alcohol for twenty or thirty minutes. We should never prepare large quantities at a time.

Small ground-glass-stoppered salt-mouth vials are most convenient for preparing and preserving the ligatures, and the vial should contain sufficient absolute alcohol to keep the gut covered. For the boiling he places the vial in a water-bath; the temperature used is 172 F.

All ligatures should be tested before use, and a second one should be placed on pedicles and important vessels, while we should tie vessels separately, rather than en masse. Silk is convenient for ligatures, and may be sterilized at the time of operation, by boiling in water. It may be kept in alcohol, in the same manner as the catgut, but should be washed in sterile water before using, as its meshes hold a large quantity of alcohol, which is injurious to the tissues.

DIAGNOSIS AND TREATMENT OF PERFORATED GASTRIC ULCER, WITH ILLUSTRATIVE CASES.

DR. MAURICE H. RICHARDSON of Boston presented a paper with this title. From his personal experience this lesion is extremely rare. He had operated in but two cases, although he had seen a few others in consultation, in all not more than ten. The infrequent occurrence of perforated gastric ulcer is seen in the records of the Massachusetts General Hospital, where in the ten years from 1888 to 1898, but six cases of perforation occurred.

Though from its infrequency, perhaps, unimportant in comparison with other abdominal emergencies like appendicitis, extrauterine pregnancy, and the like, from its almost invariable fatality it exceeds them in the importance of early diagnosis and surgical intervention. Practically all cases die if unrelieved. The success of intervention depends on the promptness with which it is begun.

Two classes of cases are met with, clinically, the one comprising the perforations occurring during the course of well-recognized gastric ulcer, the other the sudden perforations that take place in those in apparently perfect health. Little need be said as to the diagnosis in the suspected perforations of known ulcers, though the symptoms are the same as in the unsuspected cases.

The first and most important sign of perforation is pain in the upper abdomen, which is described as sudden, violent and shooting in various directions. This symptom alone, when supported by only slight previous disturbances in the stomach, makes the diagnosis of perforation probable. When to pain are added the symptoms of peritoneal shock, tenderness and muscular rigidity, the probability of septic extravasation is great, and its source probably the stomach. A previous history of ulcer makes the diagnosis certain. Without a previous history it is impossible to discriminate between the perforation of a gastric ulcer, an acute pancreatitis and some other rare septic lesions. The symptoms demand exploration, whatever the diagnosis, and except in the rarest instances the surgeon is guided directly to the seat of the extravasation.

In perforation of gastric ulcer, infecting the general peritoneal cavity, the abdomen should be opened as soon as possible, the perforation should be closed and the peritoneal cavity be cleansed and drained. The earlier the intervention, the more favorable the cure.

Several cases were detailed as throwing light upon the subject.

Perforated gastric ulcer is so quickly fatal that there is no justification whatever in delay in the application of surgical measures, especially in view of experience which shows that there is no hope in medical treatment.

IMPORTANCE OF OPERATIVE TREATMENT OF NOSE AND THROAT.

DR. C. A. CRAINTON of St. Johnsbury read a paper in which he said that the family physician is daily called on to diagnose and treat acute and chronic diseases of these parts, but comparatively seldom deems operative procedure necessary. In cases deemed trivial, a thorough examination would often reveal the absence of polypi, hypertrophy of turbinated bones enlarged tonsils, etc. All operative procedures on the nose and throat may be said to be for the relief of such obstructions. Who of us has not often noticed the vacant-looking child with adenoids and enlarged tonsils, and seen demonstrated time and again, the change from a dull and apparently unintelligent to a bright and vivacious being, soon after the removal of adenoids and tonsils!

The general practitioner ought to be as well equipped to do the minor work on the nose and throat as on any other portion of the body.

In conclusion the author summarized as follows: 1. Examine every patient for nose and throat lesion and, if such is found and is producing obstruction or neurosis, operate. Use as far as possible, in hypertrophies, the galvanocautery outfit —it is aseptic, bloodless and effective. 2. Operate on all cases of hypertrophied tonsils and adenoids in children, using either a tonsillotome or galvanocautery snare, and Gottstein's curettes. 3. Remove all polypi, preferably with a galvanocautery snare. Always clip an elongated uvula; it can do no harm and oftentimes works a miracle. 4. Always remove benign neoplasms, such as papillomata, adenomata and fibromata. Angiomata and osteomata must at times be expected. 5. Operative treatment of malignant disease of the nose and throat, carcinomata and sarcomata must depend largely on their size and location and the condition of the patient. 6. In hay-fever and asthma, always examine the nose and throat. If enlargements are found, remove them; if rhinitis, treat it. 7. Urge on the young and old the importance of caring for the nose and throat. If this is done there will be far less call for operative treatment.

FIRST DAY.—EVENING SESSION.

NEURASTHENIA.

DR. S. E. LAWTON of Brattleboro presented his annual ad-

dress, on this subject. He said that neurasthenia is a morbid condition of the nervous system, characterized by loss of resistance, increased irritability and weakness which may vary from apparent health to severe and distinct nervous disease.

It occurs most frequently between the ages of 18 and 50, equally frequent in men and women and is specially prevalent in the Northern and Eastern states. The symptoms are so numerous and diversified that classification is difficult. The disease is distinctly hereditary, in that it occurs most frequently in individuals of neurotic type.

He describes the symptoms of neurasthenia in detail, including instability of the pupil, quivering of the eyelids when closed, various vasomotor disturbances, disturbed heart's action, variable pulse, shallow respirations, peripheral numbness and hyperesthesia, burning sensations, nervous chills, mental irritability and depression, morbid fears, disturbances of sleep, especially insomnia, spinal irritation, heaviness and aching of the loins, vertigo, disturbed sexual functions, seminal emissions, muscular cramps, fibrillary muscular contractions, intercostal neuralgia, especially in the left side, constipation, flatulency, etc.

In reviewing the foregoing symptoms, one can not help being impressed with the fact that a large percentage are physiologic and not at all incompatible with health, but when they become frequent and severe and are associated with more distinct morbid phenomena, characteristic of the disorder under consideration, their significance and importance can not fail to be recognized.

The prognosis in every case of neurasthenia is good.

In the treatment it is necessary to secure the entire confidence of the patient at the outset. He should be given a careful and painstaking examination, including every organ of the body, and convinced that he will not drift into insanity, that he is not a victim of organic disease, that he is intact but out of joint, and requires a splint to his nerves and blood-vessels, and a prop to his weak extremities, that an ultimate cure is only a question of time, but that under the most favorable circumstances, a series of ups and downs must be anticipated, during which, one symptom after another will quietly disappear until all are gone. Turn his thought to something new, arouse his interest, grasp every opportunity to revert the subtle influence of mind over body, and at every interview give him some new prop on which to lean. Dominate him by the force of your personality and the compass of your resources and you will usually be surprised at the happy results.

Change is rest in the majority of cases. Isolation is necessary only in extreme cases. Traveling for health, "much as one would break stone for a living," has nothing to commend it. Douches to the spine and neck, followed by friction, are valuable, as are applications of electricity, both galvanic and static. A nitrogenous diet, with more or less fat and green vegetables is best adapted to neurasthenic patients, while the majority should be urged to drink a glass of water at mealtime and a glass or two between meals.

Chloric ether, sulfonal, trional and paraldehyde are the best hypnotics. Chloral is dangerous. Anemic cases require quinin, arsenic, alkaline hypophosphites, cod-liver oil, mineral acids, and in some cases strychnin. In hyperemic cases, sodium bromid with ergot is a preparation of value. Examine the patient often in order to keep him impressed. In conclusion, do not forget that the physician himself, his psychic influence, his ability to infuse hope and inspire confidence, his oft-repeated reassurances and crumbs of comfort, and even his solicitous oversight, are after all the most important factors and stand head and shoulders above any other measures.

*(To be Continued.)*

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## Chicago Academy of Medicine.

*Sept. 22, 1899.*

### UNTOWARD EFFECTS OF UROTROPIN.

DR. WILLIAM L. BAUM read a paper on this subject, in part as follows: As stated to the Academy half a decade ago, that prediction may be made with considerable accuracy as to the untoward effects of any new drug on learning its action, knowing the origin chiefly affected by the ordinary action of the drug, and the method of the drug excretion. All matter which enters the economy, whether through the medium of the alimentary canal, or through the external integument, causes certain changes to take place either in the nature of an excitant to the peripheral nerves, causing local disturbance and sometimes reflex nervous effects which influence the normal nutrition of the parts, or the matter is carried by the circulation to those organs containing cells for which it has a peculiar chemical or physical affinity. Taking into consideration, therefore, a temporary or permanent change in the individual cell, it is readily seen how the ordinary physiologic action of the drug rapidly becomes a perverted one. The individual diathesis is an important factor in the etiology of these effects. If, as Bouchard remarks, nerve reaction, by corrupting for the moment nutrition, can produce the morbid opportunity, it may also modify nutrition in a lasting manner and develop diathesis. The most potent remedies are, as Kiernan has shown, most fertile in untoward effects. A drug of potent physiologic action must of necessity try more severely inherited and acquired deficiencies of constitution than an inert drug. The excessive strain on inhibitions weakened by acquired or inherited taint gives an undue sway to inhibited centers. From the relation of the skin to the other excretory organs and to the regulation of temperature, it becomes obvious, on these principles, that drugs given to affect the urinary organs will at times produce untoward effects through disturbance of the heat regulating apparatus.

As Ott remarks, fever, as a rule, is primarily set up by an increase of heat production beyond that of heat dissipation, an agent from within or without deranging the harmony of the thermotaxic, thermogenetic, and thermolytic apparatuses, by which, in the initial stage, the metabolism of the tissues is usually temporarily increased, this increment being greater than that generated on a restricted amount of nutrition. Once established, the fever continues, not from excessive production, but from an altered relation between heat production and heat dissipation. Fever is not a fire kept up by an excessive oxidation of the constituents of the economy. Thus, heat production may really be subnormal, yet the bodily temperature may be at high fever heat. The thermotaxic centers of the brain maintain the balance between heat production and heat dissipation, so as to keep the temperature at 98.4 F. In fever these thermotaxic centers are so disordered that it is mainly the basal thermotaxic which are affected, that the relation between heat production and heat dissipation is so disturbed that a higher temperature results. Since the peripheral terminations of the sensory nerves influence a thermolytic center, by reflex action they constitute important factors in heat regulation.

Under the title "urotropin"—chemically hexamethylentebramin—has been introduced a new agent which, as its chemical composition indicates, would prove of value as an analgesic and as an hypnotic, as well as an antiseptic. It has been employed in genito-urinary therapy for the latter indication, and has done good. As might have been anticipated, it has antipyretic powers, and these have naturally shown as untoward effects, a tendency to derange heat regulation. Three cases were here given as illustration of this.

DR. JAMES G. KIERNAN.—If I understand the chemical composition of urotropin aright, it belongs to the amids. These all have a sedative action, as do nearly all antipyretic synthetic drugs. Even those that are not synthetic have a peculiar tendency to rearrange the heat regulations—which have been outlined by Dr. Baum—and produce conditions of this kind. It may be new to some Fellows and members of the Academy, but the fact of the matter is that probably quinin or cinchonium started homeopathy. Hahnemann was a neurotic, or, in modern phraseology, a degenerate, with an unstable heat regulating apparatus. He tried cinchona bark on himself, in stimulant doses. In precisely that class of beings it produces symptoms similar to the chill, etc., with the subsequent rise in temperature, of malaria. As malaria had produced these conditions, Hahnemann grasped at this beautiful generalization, combined it with mesmerism, and produced the modern high potency theories. The truth is, so far as I have been able to determine, any of the antipyretics, like the synthetic hypnotics, sulphonal, chloral and trional, etc., especially the amids, will produce just the condition Dr. Baum has found

with urotropin. Furthermore, it seems apparent that without unduly straining the relationship, it is safe to draw the inference that if an amid given for the purpose Dr. Baum has mentioned produces the untoward effects which he has described, it is safe to administer that amid as a hypnotic. I do not think, from what I know of Dr. Knast's results in connection with the hypnotic effects of urotropin in the psychoses, that they were due to any effects on the bladder, but rather to this effect on the general condition of the economy.

PROF. C. S. HALBERG—This new synthetic—urotropin—is little used as yet, but if I remember rightly, it is an amine and not an amid, which would further clinch the evidence submitted by Dr. Kiernan in relation to quinin. I believe it is made from formalin and ammonia. Pharmacists do not know very much about the physiologic effects, but anything that is made from formalin we would consider dangerous for use internally, even though formalin and ammonia formed a compound which may lose the properties of formalin. The ammonia, as you know, is a weak base. It is quite likely that this highly complex compound will be decomposed according to the particular kind of reaction that presents itself in the urinary tract, and it is not quite possible that it may split into some compound similar to the formaldehyde from which it is made? If that be the case, I think we should not have to go far in order to get light on the suggestion as to all kinds of untoward effects. We know formaldehyde is exceedingly irritating, and it is so disagreeable, even when locally applied, that it has to be used with care. We know it is used in the minutest quantities as a preservative of milk. It is said to be dangerous, and is not recommended by the best authorities, although it takes but little to preserve milk.

DR. BAUM—Relative to the remark of Professor Halberg, about the drug splitting up into formalin in the bladder, the toxic effect from the splitting up of a compound in the bladder itself would be *nil*, unless there was erosion of the bladder wall. The compound must split up somewhat higher than the urinary tract, where there is some erosion or involvement of the kidney. That it is a rather stable drug is shown in the fact that while extensively used here and abroad, it has seemingly not exercised other untoward actions on the average patient.

*(To be continued.)*

## Denver and Arapahoe Medical Society.

*Oct. 10, 1899.*

### SOME CONSIDERATIONS REGARDING CLIMATIC TREATMENT OF TUBERCULOSIS.

DR. F. E. WAXHAM read a paper on this subject, and said in part: There is no climate suitable to all cases any more than one medicine is suitable to all diseases. "Send your tubercular cases westward and send them early." The advice to seek health in a change of climate should be the first advice given and not the last resort after months of futile treatment. The secrêt of the success lies in the early diagnosis of the disease and in early seeking a change of climate. The idea that tubercular individuals should be excluded from this state is being promulgated to a certain extent. It undoubtedly is true that cases of tuberculosis developing in Colorado are more frequently met with than formerly, but it must be remembered that the population is much greater. It may be a question whether these spontaneous cases are more common in proportion to the population than formerly, but if so we should insist on more thorough and vigorous measures for prevention. and not on restriction. Prolonged life and the blessing of restored health should not and must not be denied by crazy legislation inspired by fear and cowardice. To deny health and strength and life to those in search of it, for fear perchance that we may contract their disease, is selfish, unscientific and unworthy of a Christian people. Undoubtedly the reason that inspired the prejudice in California against consumptives has been the large number of cases that have sought that climate in the very last stages, and without adequate means of support. Let us decry against the custom of sending invalids in the last stages of consumption from the comforts of home and friends to die in a distant land among strangers.

Rest and increased nourishment are two valuable features that should not be overlooked. Too frequently patients are advised to take little or no medicine upon arriving in this country, but to take abundant exercise. This is often a great mistake. Invalids, instead of exercising when first coming to a high altitude, should take long hours of rest. The greatest factors in the cure of tuberculosis are rest, nourishment, altitude and sunshine.

DR. TYLER, secretary of the Colorado State Board of Health, approved of Dr. Waxham's stand with reference to rumors of quarantine against consumptives. He thinks the question resolves itself into finding out whether the milk and the meat supplied to the large cities is free from infection, and also the disposition of the sputum.

DR. SHERMAN WILLIAMS, city bacteriologist of Denver, said that he has carried on an extensive correspondence, in behalf of the health department, with persons who have studied the question of the disposal of sputum, and the result is that the department has under consideration a plan of placing cuspidors in the down-town streets. Aside from its hygienic value, it will certainly serve as an educational factor.

### MASTOID OPERATIONS.

DR. W. F. COLE of Waco, Texas, performs mastoid operations by means of the dental engine, and uses cocain as an anesthetic. The modus operandi is certainly the simplest, if compared with the usual so-called, radical operation. The person to be operated on sits upright in a chair. A sterilized cocain solution is injected beneath the skin where the operation is to be done. He attaches a cutting trephine to the engine, and cuts out a plug of skin down to the bone. He removes the plug of skin and applies cotton saturated with chromic acid with considerable pressure. The bone is cleared of the muscular tissue by means of an electric cautery. He then perforates the outer table with a boring drill, making a small opening, after which he uses a large dental burr. The whole operation lasts less than ten minutes, and is not more painful than ordinary dental work. This operation has the advantage of doing no unnecessary damage to any part of the ear, and no unsightly scar is left.

## Philadelphia County Medical Society.

*Oct. 11, 1899.*

### GALL-STONE CREPITUS.

DR. J. M. ANDERS read a paper on gall-stone crepitus and auscultatory palpation, with illustrative cases. In some cases he has been able to elicit gall-stone crepitus, especially where many stones were present in the gall-bladder. In his opinion infectious cholecystitis often develops when these foreign bodies are present. Regarding diseases which present analogous symptoms to gall-stones, Walch reported a case in which it was thought that the patient during life had suffered from cholelithiasis but autopsy revealed that death had resulted from abscess. In one case he treated bile had been partially absent from the feces and entirely so in the urine, while the gall-bladder was considerably distended. In this patient he had been able to elicit gall-stone crepitus. The patient underwent an operation and 150 gall-stones were then removed.

Another patient was 52 years old, family history gouty, and for some time there had been pain in the epigastrium, but no jaundice. The pain had not shown a tendency to radiate toward the right hypochondrium. On palpation tenderness was found to exist in the region of the stomach and gall-bladder. Subsequently twenty-four gall-stones were passed per rectum.

A third patient was a woman 50 years of age, whose father had been subject to gout and the mother to rheumatism. The patient suffered from periodic attacks of pain in the abdominal region, and jaundice finally occurred. Gall-stone crepitus could not be obtained, but on placing a stethoscope just below the costal arch, while palpating with the free right hand, he could distinctly hear a grating sound. Auscultatory palpation in cases of gall-stone he considers a valuable diagnostic sign. In eliciting this sign he allows the patient to relax the abdominal muscles, and if crepitus is not found, dip the finger deeply into the abdominal muscles just below the fundus of the gall-bladder. Failing in this he tells the patient to take a deep inspiration, which throws the fundus forward and downward, thus bringing it in contact with the abdominal fingers. In order to detect the grating sound, which is frequently present,

he recommends that the stethoscope be placed just below the costal arch while palpating with the free right hand. In this way friction of the stones will give rise to the grating sound.

DR. MORDECAI PRICE had never been able to feel the stones nor hear the grating sound made by them. In one case in which the consultant had stated that he heard the grating sound, an operation revealed that a cancerous mass was present. Speaking of the complications of gall-stones, he recalled a case in which, at the time of operation, he found the stone imbedded within the walls of the abdominal aorta, and he allowed it to remain. Three days afterward the patient died suddenly from rupture of the stone into the aorta.

DR. ERNEST LAPLACE thought that every sign which could aid the physician in making a diagnosis of gall-stone should be welcomed. In these cases in which crepitus can be detected it necessarily implies that more than one stone is present.

DR. JOSEPH PRICE stated that in three patients he had removed 1000 gall-stones. In these, he thought that the signs spoken of by Dr. Anders might have been elicited.

DR. SOLOMON SOLIS-COHEN thought that the sign as elicited by Dr. Anders was of special value in the early stages of formation of gall-stone, when the disease might possibly be amenable to medical treatment.

IRRIGATION IN PURULENT PERITONITIS.

DR. ERNEST LAPLACE read this paper, an abstract of which appeared in the JOURNAL, October 21, ¶ 145, p. 1035.

## Cleveland Medical Society.

*Sept. 22, 1899.*

VARICOSE ULCERS.

DR. F. E. BUNTS read a paper on "The Operative Treatment of Varicose Ulcers and a New Local Application for Inoperable Cases." It was his opinion that, in order to treat these ulcers successfully, it was necessary to first understand the pathologic condition leading up to their formation. With these pathologic changes constantly in mind, the treatment of this class of troubles becomes one of comparative simplicity, and is to be classed with other great advances in the practice of surgery. He referred to the various operative methods now in use, and gave as his own preference the excision of from six to eight inches of the internal saphenous vein, extending about equally above and below the knee-joint. All communicating branches are ligated and severed, and the wound is closed with silk sutures, the knee fixed by posterior splints, and the patient confined to bed. The results were extremely satisfactory and the rapidity of epidermization was very marked. In addition to this method of treatment, he also advised curetting and skin-grafting. Healing of the most intractable ulcers should take place in about three weeks. In those cases in which operation was refused, Dr. Bunts suggested what he believes to be a new treatment, that of dusting the ulcer with sterile pulverized iron ore dust. This forms an excellent protection for the ulcer and the surrounding integument and, if combined with a mild antiseptic dressing, such as a moist bichlorid, the result appears to be better than that obtained by the use of any other local application. In regard to the use of iron ore dust, it is cheap, non-irritating, improves granulation, favors epidermization, is at least aseptic, may be used on any class of wounds except those about the face, and is especially valuable in granulating wounds, ulcers and varicose eczema.

DR. W. T. CORLETT noted that the usual remedies for ulcers in other locations fail in varicose ones. He had never observed any benefit following any constitutional treatment. The recumbent posture had been the most important measure of relief, in his experience. This is not often possible, and then the method of obliterating the veins is the best.

DR. R. D. FRY reported good results from thoroughly scarifying the ulcer, and by strapping the limb from the toes to the knee. For this purpose he used mo'eskin plaster, keeping up the support for weeks and even months. He had seen benefit from stimulating applications applied with a camel's-hair pencil. Skin-grafting he often found very successful. The great secret of success in any treatment of varicose ulcers is asepsis.

DR. BUNTS, in closing, agreed with Dr. Corlett that constitutional treatment is practically of no effect, but differed from the last speaker in never having found any benefit from any local applications. Elevation of the part, with rest, and treatment with sterilized gauze, will result in cure if it can be continued long enough. Classification of ulcers by their varying characters is of no benefit to the physician treating them. Some distinction must be made between the acute and the chronic.

LOCALIZATIONS OF CORD LESIONS.

DR. C. J. ALDRICH read a paper on "Localization of Some of the Lesions of the Lower Cord," in which he reported two interesting cases. These were cases of lesions of the last segment of the cord, around which he grouped some practical deductions as to the peculiarity of the lesions of the lower cord and *cauda equina*. The reports were accompanied by photographs illustrating the saddle-shaped areas of anesthesia, the extent of the atrophy and other trophic changes. He called attention to the fact that symmetry usually means a central, and asymmetry a peripheral lesion. He recommended lumbar puncture in cases of suspected hemorrhage into the membranes of the lower cord, and if, after withdrawal of blood, the symptoms failed to disappear, thought it perfectly proper to make a laminectomy, incise the membranes and remove the clots before they become organized.

DR. I. FRIEDMAN had seen one of Dr. Aldrich's cases and had observed that, while certain areas were anesthetic, they were yet capable of feeling pain, which the author had called *anesthesia dolorosa*. He asked the mechanism of this phenomenon.

DR. BUNTS had seen cases of persons who had fallen from a height, striking on the lower portion of the spinal column, in whom there were local paralyses about the lower portion of the trunk. This disappeared without treatment in three or four weeks, and he thought they were analogous to the old-fashioned concussion of the brain and probably caused by minute hemorrhages.

DR. ALDRICH, in closing, said that the anesthetic areas were in this condition because the conductive fibers were cut off, and, as frequently occurs in an amputated stump, some irritation to the remaining portion of the conducting fiber causes pain that is referred to the original location from which the fiber received its impression. He had seen cases like those mentioned by Dr. Bunts, and thought his explanation of their causation was correct.

DR. MARCUS ROSENWASSER discussed the management of uterine fibroids complicating pregnancy. The statistics from German lying-in hospitals show that, if allowed to go to term, one-half of the women and two-thirds of the children die, proving it to be a most serious condition. A few cases in which small fibroids are located in the fundus undergo normal labor. Two courses are open to the attendant: either to leave the case alone until after delivery, or to perform hysterectomy. Each case must be judged by itself. Rapidly growing or obstructing tumors should be operated on early. It is possible to remove many of the tumors, especially those that are pediculated, without interfering with the course of pregnancy. Some cases do well if let alone, and others if treated during labor. He also noted, with approval, a recent paper insisting that in every case of uterine hemorrhage at the time of the menopause a careful examination should be made by the general practitioner to determine the possible existence of malignant disease.

## Jackson County Medical Society.

*Kansas City, Mo., Sept. 15, 1899.*

SYPHILIS OF THE SKIN.

DR. WM. FRICK said that in nearly all cases of secondary syphilis some form of skin eruption can be seen at some time during that stage. In tertiary syphilis probably not more than half of the cases present skin lesions. In this stage we have the destructive lesions both in the skin and in other parts of the body. It is important to be able to recognize the tertiary lesions, because some cases occur so long after the secondary that it is forgotten; as the early stages were so light that very little attention was given; or the patient may be a woman who has had a syphilitic child or aborted a syphilitic fetus, and never shown the secondary stage. Tertiary syphilis is sometimes taken for other skin diseases, and non-syphilitic skin diseases are sometimes thought to be specific. All syphilitic lesions are characterized by round-celled infiltration. Lesions making their appearance after two years' duration of the disease are generally tertiary, but there is no certain line of demarcation between the secondary and tertiary, and the character of the lesion is a better guide than the length of time since the primary sore. The tubercular syphilide is the latest form of skin syphilis, and corresponds in time to the gumma of other structures.

The iodids are the specifics in this stage. Nothing else will cause so rapid a disappearance of the tertiary lesions when they appear. Some mercurials will assist the iodids at times, while some cases well require suspension of specific treatment and a tonic course for a time.

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SATURDAY, NOVEMBER 4, 1899.

## CEREBROSPINAL RHINORRHEA AND OTORRHEA.

Having observed a patient in otherwise perfect health, who presented, without tangible cause, a discharge of cerebrospinal fluid from one side of the nose, for two and a half years intermittently, but for three years continuously, St. Clair Thomson[1] was led to undertake a study of the literature of the subject, with the result of collecting the records of twenty other cases. The patient was an unmarried woman, 25 years old, and she suffered only from the mechanical inconvenience of the discharge from the nose. Careful bacteriologic examination of the fluid proved it to be sterile, and chemical study demonstrated it to be cerebrospinal fluid. The discharge ceased on four occasions without obvious cause, and without the development of any other symptom—once for a month, at another time for two months, and a third time for a month, and again for sixteen days. All treatment was unavailing.

Of the cases collected there were eight in which the discharge from the nose was undoubtedly cerebrospinal fluid; in twelve the discharge was considered as probably this fluid; eight others were suggestive of an intracranial origin for the discharge, but their description was not sufficiently complete to justify their inclusion in either of the two preceding groups. Sometimes the discharge follows traumatism, or disease, or perhaps some operative manipulation. At other times, as in the present instance, it occurs simultaneously. Lucae[2] has recently placed on record a case that he believes to be unique in character, in which a profuse discharge of cerebrospinal fluid from the ear persisted for five weeks without cerebral manifestations. The patient was a young man, 17 years old, who had suffered from inflammation of the middle ear on the right side, necessitating mastoid trephining, and a subdural abscess being found. The ear trouble persisted, though greatly relieved by local treatment, especially the removal of adenoid vegetations, and, after the lapse of ten months, radical intervention was undertaken. On opening the mastoid process a defect in the bone, rather less than one-half inch in diameter, exposing the dura and covered by a sequestrum, came into view, and on removal of the latter an opening was found also in the dura and the arachnoid. From this blood and cerebrospinal fluid escaped in large amount, in spite of tamponade of the wound. The discharge of fluid continued for five weeks—quite freely for two weeks—and then gradually subsided. During all of this time no cerebral manifestations appeared, and neither vertigo nor fever was present, and the pulse was normal. The abundance and persistence of the discharge in this instance are attributed to excessive production of cerebrospinal fluid in consequence of irritation induced by the presence of the sequestrum of bone.

The clinical features of cerebrospinal rhinorrhea include first of all the discharge from the nose. The flow in most cases commences gradually; it occurs in drops, much as the flow of blood in epistaxis, and in carefully recorded cases it is continuous both by day and by night. In the latter period it may be swallowed during sleep. It generally makes its escape from one nostril only, but it may flow from both. The fluid that escapes amounts to about half a liter in twenty-four hours. The amount is increased when the patient strains in any way, or hangs the head forward. If collected with care the fluid is found to be absolutely sterile. The discharge may persist for many years. The fluid is perfectly transparent, like water, and free from sediment. It is faintly alkaline in reaction, and either tasteless or slightly salty. The specific gravity is between 1005 and 1010. The fluid is not viscous, and yields no precipitate—mucin—on addition of acetic acid. On boiling, only a trace of coagulum of serum-globulin appears. Serum-albumin is usually absent. On boiling with Fehling's solution reduction takes place. The reducing substance may be obtained by evaporating an alcoholic extract of the fluid to dryness. It is then found in the form of needle-like crystals. The aqueous solution of this residue does not ferment with yeast, and does not yield the phenylhydrazin reaction.

Cerebrospinal rhinorrhea is an affection of middle life, the age-incidence falling between the extremes of 18 and 65. Males and females suffer alike and equally.

In seventeen cases cerebral symptoms were present, including headache, vertigo, sonnolence, drowsiness,

[1] Cerebrospinal Fluid; Its Spontaneous Escape from the Nose, with Observations on Its Composition and Function in the Human Subject. Cassell & Co.: 1899.

[2] Berliner Klin. Woch., Aug. 2, 1899, p. 869.

vomiting, delirium, convulsions, coma, paresis, impaired vision, optic neuritis or atrophy, proptosis, exophthalmos, and enlargement of the thyroid gland. A noteworthy feature is the absence of fever.

The condition must be differentiated from nasal hydrorrhea, so-called dropsy of the antrum or serous accumulation in the maxillary sinus, vasomotor rhinitis, paroxysmal sneezing, hay-fever, and rupture of a lymphatic vessel. Nasal hydrorrhea is characterized by the following features: The flow takes place almost invariably from both nostrils, although sometimes more from one than from the other; it is not noticeably influenced by the position of the head, and it ceases during sleep. It is, as a rule, preceded or accompanied by other signs of irritation of the mucous membrane, such as sneezing, lachrymation, and photophobia. The flow is variable, and seldom has any regularity, either in the dripping or in the intermission; but the flow is seldom continuous for more than a few hours or a few days at a time. Headache is not relieved by the flow, but is, as a rule, made worse. Cerebral symptoms are not marked. Ocular symptoms are unknown, except for some conjunctival irritation. In cerebrospinal rhinorrhea, on the other hand, the flow is generally one-sided. Sneezing is rare, and infrequent, and lachrymation, suffusion of the conjunctiva, and photophobia are wanting. The flow is practically continuous and apparently uninfluenced by external conditions or the general state of the health. Lymph, as contrasted with cerebrospinal fluid, coagulates spontaneously from the presence of albumin, and the specific gravity varies from 1012 to 1022. It always yields all of the tests for sugar. From all of these conditions, however, cerebrospinal rhinorrhea is to be differentiated by the physical and chemical characters of the discharge.

The pathology of the affection is obscure. It has been attributed to abnormal accumulation of fluid in the ventricles, in some cases associated with meningitis, in others with tumors. Sometimes the cranial cavity presents no obvious peculiarity. It is not known by what channel the fluid escapes from the brain into the nose. It has been thought that this may take place through some adventitious opening, present naturally, or induced by traumatism.

The condition does not in itself appear dangerous to life, and, as has been intimated, there is no reliable mode of treatment.

## ORIGIN OF TYPHOID ANTIBODIES AND AGGLUTININS.

The mechanism of the production of substances which are antagonistic to the harmful action of bacteria is being actively studied. We already know of a considerable number of so-called antibodies which are produced in the body under the influence of various stimuli. There are antitoxins, the agglutinins, the various antihematic substances, the lactoserum which precipitates milk, etc. Ladislas Deutsch studies the origin of the antibodies in typhoid infection[1]. A single intraperitoneal injection of a culture of the typhoid bacillus into a guinea-pig is followed by the production of antibodies. The antityphoid power of the serum appears on the fourth to the fifth day, and reaches its maximum on the eleventh or twelfth, when 0.05 c.c. protects against twice the fatal dose. This property then rapidly diminishes and disappears wholly in one month. The antityphoid substance or substances are present to a slight extent in the liver, the kidneys, the adrenals and the omentum; in the peritoneal exudate it is almost as well marked as in the serum of the blood. In a small proportion of the experiments the bone marrow and the spleen were found more active than the serum. The antityphoid substance develops as freely in animals deprived of the spleen before the injection as in healthy animals. Splenectomy during the early days of immunization results in a quite marked diminution of the antityphoid property. The injection of the substance of the spleen removed under these circumstances gives rise to specific agglutinins in the blood of the animals injected, showing that these substances or their precursors are present in the spleen. These experiments failed to show definitely which cells give origin to the antibodies, but it is thought that the occurrence of these bodies in the serum, the marrow and the spleen indicates that the leucocytes are their source. This conclusion concurs perfectly with the teachings of the investigators of the Pasteur Institute who look on the leucocytes as playing the essential part in the immunity.

Deutsch also found that the intraperitoneal injection into the guinea-pig of heated typhoid culture produces agglutinating substances in the serum. The appearance and development of this power follow the same rules as those of the antibodies. Agglutinating serum is always preventive, but there are serums with feeble agglutinating powers, which nevertheless contain active antibodies. The identity of agglutinins and antibodies can not be maintained. The agglutinins are present in the largest quantity in the serum of the blood, the lymphatic organs containing variable quantities. Splenectomy before immunization does not hinder the formation of agglutinins, but when made three or four days after the injection of typhoid bacilli, the quantity of agglutinins falls much below the normal. The spleen consequently harbors the microbic products which lead to the formation of agglutinating substances. The only organ in the guinea-pig which possesses a higher agglutinating power than the blood serum is the lungs, but this power of the lungs can not be considered as specific because it is present in animals, such as newborn guinea-pigs, which have not been immunized, and is exercised on diverse microbes. The extract of the normal lung appears to be the first animal humor which, while strongly agglutinating, does not contain preventive substances. Perhaps the agglutinating sub-

[1] Annales de l'Institut Pasteur, 1899, xiii, 689.

stances of various kinds found in healthy untreated animals are derived from these pulmonary agglutinins.

## OPERATIVE TREATMENT FOR TYPHOID PERFORATION.

There is much ground for encouragement in the admirable paper read by Dr. W. W. Keen, on the "Treatment of Perforation of the Bowel in Typhoid Fever," at the recent meeting of the New York State Medical Association. It was pointed out that the percentage of recoveries following operation for this condition had increased from about 19 per cent. in the past fourteen years to about 27 per cent. during the past year and a half, among almost as large a number of cases, and it was hoped that the percentage might be further increased to at least 33 1-3.

In this hope, which we think justified by the experience of the past, we wish to sustain Dr. Keen. One of the most important considerations for success is timely operation. We agree with Dr. Keen that it would be hazardous to operate during the period of shock, but it is sometimes difficult to know that reaction will take place, and when. The decision in the individual case must necessarily depend on the judgment of those under whose observation the patient happens to be. There can be no hard and fast rule except to operate as early as feasible, as, with Dr. Keen, we believe that the question whether operation shall be performed or not has already been answered in the affirmative. To secure the best results the injunction that the surgeon should be called in consultation as soon as perforation is feared or suspected, is worthy of general adoption. Its observance in cases of appendicitis is no doubt responsible for the saving of many lives. Experience has shown that operative intervention should not be repudiated as hopeless at any stage, or in the presence of any condition however alarming. One of the latest cases in the category under consideration, which is also noteworthy in other respects, has been reported by Hawkins and Thurston[1]. A girl 11 years old, on the forty-first day of an attack of typhoid fever, developed symptoms of perforation of the bowel, for which operation was undertaken fifteen hours after the occurrence of the accident, a perforation of the cecum about one-eighth inch in diameter being found and sutured, the peritoneal cavity irrigated and cleansed, and although the postoperative condition was at the time alarming, recovery eventually ensued. The patient fell into a septic state two weeks after the operation, and for eleven days 5 c.c. of antistreptococcic serum was injected daily. The case was further complicated by a relapse on the one hundred and first day, lasting fourteen days. Widal's test yielded negative results on the fifteenth, twenty-second, and thirty-seventh days, but a positive reaction on the one hundred and third day.

## A CONTEMPORARY ADVERTISES ITSELF.

One of our esteemed New York contemporaries appears to be using printer's ink extensively in a commercial sense of the term. An apparent advertising editorial has recently been circulating through the secular press calling attention to the "leading organ of the medical profession in America," that has gained a world-wide reputation as the "recognized medium of intercommunication between the profession throughout the world." We were not before aware that English was already the universal language of medicine, though we had hoped it might become the "recognized medium of intercommunication." The editorial goes on to give the advantages and merits generally of this medical newspaper and "most influential of its class." This is probably altogether legitimate, as much so perhaps as sworn publications of circulation, etc., but the method is novel and noteworthy. The one ethical question involved in this case is that of the absolute truth of all these statements. The identity of the editorials in all the publications where they appear indicates, beyond question, a common source, which must be, from internal indications, about the middle of the first hundred numbers on Fifth Avenue, New York City.

## CONGRESS OF PROFESSIONAL MEDICINE.

We have received the first general circular of the First International Congress of Professional Medicine and Medical Dermatology, to be held at Paris, July 23-28, 1900. It gives the general statement of the subjects of the sections, viz., on the relations of physicians to organizations, etc., to individuals, to other physicians, and questions of medical insurance, defense, etc. Titular membership of the Congress is obtained by payment, before the opening, of fifteen francs by postal order; participating membership by similar payment of ten francs; the former only gives the right to take part in the discussions. All manuscript of reports to be presented must be in the hands of the Committee on Organization before Jan. 1, 1900. These, which will be printed and distributed in advance, must be in French. The communications may be in either French, English or German, but should be attended with a brief résumé of their principal points in French. The Congress has a wide field for its labors and can hardly fail to elicit opinions and discussions of great interest to the profession.

## THE TEXAS QUARANTINE.

A rather curious condition of affairs is shown in the recent suit of the State of Louisiana for relief from the quarantine regulations imposed by the State of Texas. The Louisiana counsel holds that the quarantine regulations of Texas are being imposed for the purpose of interfering with interstate commerce under the pretense of protection against disease, and the Texas attorney, according to newspaper reports, practically admits the accusation. The case for Louisiana is strong enough apparently for the U. S. Supreme Court to allow it to file a bill for an injunction against the State of Texas, prohibiting a trade embargo in connection with the yellow fever quarantine of the latter state. We do not pretend to speak authoritatively as to the commercial or legal aspects of the case, but it seems a pity if, on the one hand, commercial demands can interfere

[1] Lancet, October 14, 1899, p. 1004.

with needed sanitary regulations, and an outrage, on the other hand, if the plea of sanitation is prostituted to aid mercenary commercialism. As to which of these possibilities really exists in the Texas quarantine, we shall probably have to wait for the courts to decide. It is to be hoped, for the credit of the Texas sanitary authorities, that they can present a reasonable defense, even if they have to admit that their zeal may have run beyond discretion, which is not yet proven.

## MORPHINISM AMONG PHYSICIANS.

It is to hoped that the figures cited by Dr. T. D. Crothers[1] at the recent meeting of the New York Medical Association, to the effect that 10 per cent. of medical men are morphin habitués, are exaggerated, although there are few individuals so much exposed to the danger of addiction as they, by reason of the nature of their work, with its cares, responsibilities and emotions, the necessary and often unavoidable irregularity of their hours of sleep, eating, and recreation. With the knowledge of the danger, it should be the invariable rule of physicians never to take any drug, and especially of the sedative or hypnotic class, on their own initiative, but always and only on the advice and under the observation of a trustworthy colleague. Here, perhaps, more than in any other relation, the apt truism of Weir Mitchell may be quoted as appropriate: "The physician who treats himself has a fool for a patient."

## VITAL STATISTICS IN INDIANA.

The physicians of Indiana are, it is said, at outs with the state authorities as regards the working of the registration laws. The statute, it appears, has been so drawn up that the filling of elaborate blanks in cases of births and deaths is made obligatory, without compensation, on physicians, who are also required to make a semimonthly report as to births occurring in their practice whether, so far as it appears, there have been any or not. The State Board which secured the passage of the law had inserted the provision that the health officers must prosecute all physicians failing to duly report births and deaths, and this feature of the law makes the position of the local health officers a very embarrassing one. It is said, indeed, that there is difficulty in finding competent physicians who are willing to take the position. They recognize the injustice of demanding uncompensated labor and expense from a profession that already does much more than its share of unpaid service for public welfare. The result will be that the law, like other glaringly unjust enactments, will pass into innocuous desuetude, and the vital statistics of Indiana will not be compiled. If the state wants statistics, it ought to make a provision for compensation for birth reports at least, otherwise it will be unlikely to get them.

## WOODBURY VS. EDDY.

The case of Woodbury vs. Eddy, a slander suit claiming $150,000 damages, is the sequel to the article in the *Arena* last May by Mrs. Josephine Curtis Woodbury, exposing "Christian Science" and its prophetess. The latter, it is claimed, retorted by identifying the author with the scarlet woman of Revelation, a characterization that might not unreasonably be considered libelous by any woman to whom it was applied. Mrs. Eddy herself, it is said, applies the twelfth chapter of Revelation to herself. She is the woman clothed with the sun, with the moon under her feet. It may be rather rough for people who have a reverence for the Scriptures and for sacred things to have the profane pretensions of the prophetess aired in court, but it is to be hoped the case will go through. One would not specially regret to see her coffers tapped a little for the benefit of one who had suffered such an unsavory personation from her rostrum, and a little light let in on the Eddyistic methods, such as is now being thrown on the kindred delusion of Dowieism, ought to be beneficial. It is also, perhaps, worthy of mention here, as illustrating the hostility of "Christian Science" to science properly so-called, that protests have been made by its adherents against any teaching of physiology in schools. They would probably prefer to have metaphysics taught instead.

## COMMISSIONS.

The matter of the payment of commissions by consultants to general practitioners who send them cases has already been severely condemned in these columns, but evidence that certain members of the profession are endeavoring to permanently engraft this debasing custom on us compels further reference to this excessively displeasing subject. Specialists are daily receiving importuning letters from general physicians, asking, "what inducements do you offer for operative cases?" There can and must be no compromise in this vital matter. The physician who gives or receives a commission in this manner thereby writes himself down a veritable quack; no other conclusion is possible. The profession must rapidly ascertain who are the men engaged in exploiting this execrable practice, and put them explicitly beyond the pale of decent association. Nothing more subversive of the honor of the profession than this business of commissions has ever been proposed. This rank weed, if allowed to sprout and develop, will soon produce a crop of patient-brokers who will arrange terms between the family doctor and the specialist, while the patient will become mere chattel property to be hawked about and knocked down to the highest bidder. There can be but one true reason for referring a case to a consultant, viz., the good of the patient. To interject a mercenary agreement between the physician and the consultant is to strike a death-blow at the very foundation of professional honor. No physician who respects his calling and who appreciates the dignity of education and the joy of mercy can afford to in the least degree compromise with this pernicious tendency. No two alternative courses in this matter are open to the choice of honorable men. The practice must be unhesitatingly frowned down from its very inception. The specialist who once succumbs to this seductive phase of temptation will subsequently find that he has bound himself hand and foot at the altar of Mammon; and the general practitioner who asks a commission

[1] JOURNAL, p. 1165.

for a referred case will sooner or later be crucified on the outraged decency of the patients he has arrogantly assumed to be his private property. That this ignominious practice will thrive among the quacks and all manner of irregulars is to be expected, but the physicians of this country, each and every one, must turn their hands actively to the extermination among themselves of the spores of this noxious growth. Wherever you meet it, condemn it in unmeasured terms.

## RESUSCITATION IN APPARENT ASPHYXIA OR DROWNING.

Some years ago an American physician reported a case or two of resuscitation of persons after long submersion, by continuous artificial respiration carried on for hours before the result was obtained. The report attracted little attention and was probably mildly discredited by the majority of the profession. Now, however, we have French testimony to the same effect. At the Academie de Medicine, October 3, M. Laborde related fourteen cases of resuscitation of individuals in a state of apparent death, by rhythmic traction of the tongue. Half of these were cases of apparent deaths from drowning, some of which had been subjected to the traction for periods of twenty to sixty minutes, or more, and one in which this was performed for three hours before the subject was revived. According to him, submersion for thirty to forty-five minutes is not sufficient in some cases to render resuscitation impossible. The vital powers would seem, according to Laborde, to persist for a much longer period than has heretofore been considered possible, the maximum limit reaching at least three hours. During this time it was found, in experiments on asphyxiated animals, that the blood was very rich in carbonic acid and contained only traces of oxygen, but it never coagulated, and maintained a certain constant temperature. The heart was apparently stopped and presented only slight tremulous movements, but as soon as respiratory movements began to be re-established, it pulsated strongly. It is probable that these experiments give a fair conception of the conditions in the apparently drowned, and that there are at least some cases where a vigorous effort with artificial respiration may save life after a much longer submersion than has hitherto been deemed inevitably fatal. Laborde's report dwelt especially on the value of his method of rhythmic traction of the tongue, but it is by no means impossible that other methods also, when persistently used, may be effective. The tongue traction method is itself always available, and in view of this testimony should always be employed. The communication is a noteworthy one in that it indicates possibilities of life-saving beyond our previous conceptions, and the facts should therefore be widely published. (See also p. 1162.)

## INFECTION FROM BOOKS.

The State Board of Health of Michigan has, it is reported, sent a communication to the New York Board of Health, that twenty clerks employed on some volumes of records had died of consumption, and that on examination by a bacteriologist, the books were found full of tubercle bacilli. It is thought they became infected by a former clerk who had the habit of moistening his thumb with saliva in turning the pages. As first stated in the newspapers, this occurred in Michigan, but we have been informed that it really occurred in Germany. There is nothing remarkable in the fact that a set of books that had been coughed over by a succession of twenty consumptive clerks should contain tubercle bacilli, and decidedly need sterilization, but the story is an interesting one though too incomplete and indefinite. It ought to be given with a thorough medical report of all the facts, and this we have not yet seen in our overlooking of German medical literature. It would be of interest to know how many cashiers of business houses, and tellers, become infected from the money they handle, which must of necessity be loaded with every form of germ. So far as we are aware very little effort is made to disinfect dirty bills and coins, which last are often almost black in places with dirt lodged in the impressions of the die. We all know what the physical characters of much of the paper currency are, and it is a most remarkable thing that every possible infection is not spread broadcast by it. The fact that the ill effects of dirty paper passed from hand to hand by thousands of people, habitually wet with saliva in counting, circulating everywhere without any attempt at cleansing or disinfection, does not convey disease at wholesale almost staggers one's faith in any infection whatever. The bank tellers' occupation should, of all others, it would seem, be one of the most productive of morbidity and fatalities. What are the facts in the case and have they been investigated? It would appear that this might be a matter worth inquiry. It is, in fact, probable that none of us really escape the infection of tuberculosis, but that only where the predisposition exists or the infection is particularly virulent is it effectual in producing perceptible morbidity, and may not this constant exposure have created a very general immunity to the disease? This certainly appears to be one of the most rational explanations of the facts as they exist.

## BACTERIOLOGIC RELATIONS OF THE BILE.

Now that surgeons frequently operate on the liver and the biliary passages, it is important to know as much as possible concerning the bacteriologic relations of the bile. The most recent observations on this subject are by E. Fränkel and Krause[1] of Hamburg. They examined the bile after death under suitable and, it is believed, satisfactory conditions and precautions, so that the results are entitled to be regarded as reliable. It was found to be contaminated with bacteria in 25 out of 130 cases; in 12 of the 25 cases biliary calculi were present; 4 were instances of acute infectious diseases, 4 of peritonitis, 3 had been subjected to abdominal operations, and the remaining 2 were unassociated with any special etiologic conditions. These results are in marked contrast to the results obtained by Létienne, who found that bacteria of different kinds were present in the bile in 40 per cent. of the cases examined; Fränkel and Krause attribute this high figure to im-

[1] Ztft. f. Hyg. u. Infektionske, 1899, xxxii, 97.

perfect technic. Without entering into details as to different kinds of bacteria present, and other points, the especial feature to which we direct attention is that in five cases—not contained among the 25—Fränkel and Krause, by experimental inoculation of guinea-pigs found tubercle bacilli present in the bile. Eleven samples of bile from tuberculous individuals were tested in this way. The cases were partly instances of chronic tuberculosis of the lungs, and partly of acute miliary tuberculosis. In no cases did the liver present gross tubercular changes, but unfortunately thorough microscopic examinations of the livers were not made. The exact mode of entrance of bacilli into the bile therefore remains obscure. This demonstration that tubercle germs may occur in the bile carries with it the injunction that in surgical operations on the biliary tract of tuberculous individuals no bile should be allowed to enter the abdominal cavity lest a tuberculous peritonitis develop. This demonstration also suggests a new mode of development of intestinal tuberculosis, namely through the bile contaminated with tubercle germs.

The investigators mentioned found that sterile human bile is a fairly favorable culture-medium for different kinds of microbes. Typhoid and colon bacilli and the staphylococcus pyogenes retained their biologic characters unchanged after a sojourn of weeks in the bile. This fact accords well with observations already made anent the survival of typhoid bacilli in the gall-bladder after typhoid fever. Fränkel and Krause found that typhoid bacilli and also that diphtheria bacilli did not lose any of their virulence when grown in bile. On the contrary, certain facts mentioned seem to show that in the case of the typhoid bacillus an actual increase in virulence may occur. Sterile human bile was found on experimental intraperitoneal injection to cause but slight inflammatory changes.

### ANTIVACCINATION DELUSION.

A child died last week in Chicago from lockjaw starting from an unhealed vaccination wound, and this has naturally received some attention from the press. The facts seem to be that the vaccination was properly performed, and that the infection, as might be supposed, was a subsequent matter. There are, however, in every community some antivaccination fanatics to whom such an occurrence is a godsend and a chance for the wildest generalization and accusations. If one in a hundred thousand or more cases of vaccination becomes complicated by some neglect or accident, and death results, the fact is at once utilized and made the most of by the lay press, that, while not opposed to vaccination, is all alive for any item that is in any degree catchy or sensational. A death following vaccination, however remotely or indirectly, is immediately snatched up as an argument against vaccination by the "antis" and cranks. Even a germ disease like lockjaw, as in this instance, is liable to be attributed by them to the vaccin virus, however pure and aseptically inoculated. That a coroner's jury should give a verdict, attributing the death to vaccination, as in this case, is, considering the facts as reported, an inconsiderate performance and apparently an evidence of the extent of the delusion to which we have referred.

## Medical News.

ST. MARY'S Hospital, Grand Rapids, Mich., which has been entirely remodelel and rebuilt, was dedicated October 24.

THE YELLOW fever patient who arrived in New York City from Havana, the 24th ult., died on Swinburne Island, October 26.

DR. HOWARD S. ANDERS of the Medico-Chirurgical College has accepted the Municipal League nomination for coroner of Philadelphia.

A SANATORIUM is being erected by the Germans at Davos in the Engadine, to cost about $60,000. The endowment for free beds is a third of this sum.

THE JOHNS Hopkins University will send an exhibit to the Paris Exposition. The hospital will be represented by a complete collection of its publications.

DR. C. A. SMITH was given a farewell banquet by the King County Medical Society, Seattle, Wash., October 19. He goes to Elizabeth, N. J., to engage in practice.

PROF. ALEXANDER C. ABBOTT, of the department of hygiene, University of Pennsylvania, has begun a course of lectures on that branch to the third year students of the Johns Hopkins Medical School.

THE BOARD of Visitors of the University of Virginia recently authorized the Medical Faculty to commence work on the new hospital to be built on the university campus. The hospital will cost $25,000.

THE HOSPITAL at Sagua la Grande, Cuba, is said to have collapsed on October 22, killing four patients and wounding twenty-seven. It is believed that the building had been inundated by recent heavy rains.

THE NEW Institute of Physiology at Vienna was formally opened last month, with appropriate ceremonies presided over by Prof. S. Exner, the superintendent, and Zuckerkandl, dean of the medical faculty.

THE PUBLIC schools of Princeton, N. J., were recently closed for ten days on account of the prevalence of diphtheria. During the past week, a number of cases have been reported. Owing to the mildness of the disease no serious epidemic is feared.

IT IS said that the medical authorities of Virginia now fear a severe epidemic of smallpox. The disease began in the early spring and, owing to a lack of proper quarantine restrictions, it has now become widely distributed over the state. The southern portion seems most afflicted.

A GIRL, 4 years old, at Locust Grove, Pa., was bitten on the cheek by a dog about three weeks ago. The wound healed promptly, but on October 24 the child became restless, would snap at imaginary objects, rapidly became worse, finally suffering severe convulsions requiring forcible restraint to keep her in bed. On the 26th she died.

APPRECIATING the need of a hospital for themselves, the Americans and English residing in Rome have formed an organization for the purpose of creating such an institution. Five thousand dollars have already been subscribed and the Anglo-American Nursing Home, it is thought, will soon be an accomplished fact. All Americans and English who may become ill while in Rome will be entitled to its benefit.

A LITTLE anecdote of Virchow is going the rounds on the occasion of his 78th birthday, October 13. He was examining a medical student who had remained dumb

to question after question, until asked: "Is regeneration of the brain possible?" when he energetically replied in the affirmative. "Well, then," Virchow observed, "there is hope for you yet."

THE STATE Board of Health of Pennsylvania has recently had printed a pamphlet on the diagnosis and prevention of smallpox. The law for the restriction of the disease is also printed in detail. Circulars in regard to the proper precautions against cholera, diphtheria, trichina and other infectious diseases have also been authorized by the secretary of the State Board of Health.

THE MEMORIAL Committee of the Maryland Public Health Association will erect a bronze portrait tablet as a permanent memorial to the life and public services of the late Dr. George H. Rohé, Baltimore. It will be placed either in the hall of the Medical and Chirugical Faculty of Maryland, or at Springfield Asylum for the Insane, an institution which was erected and organized by Dr. Rohé.

ANTHRAX was responsible for a very interesting civil suit tried last week at Guelph, Ont. The widow of a tanner brought action against the proprietors of a large tannery in Acton, on the ground that her husband's employers had imported infected hides, and that through working with these her husband had contracted the disease, from which he died. The courts awarded the plaintiff $1,000, and her two children $500 each.

MR. WILLIAM H. APPLETON, senior member of the firm of D. Appleton & Company, died in New York City, October 19, aged 88. While his influence has not been felt in recent years on account of age, it has had much to do with medical as well as other literature in the past. To him probably more than to anyone else is due the credit of the existence of the *N.Y. Medical Journal*, the *Popular Science Monthly*, and many medical books of the highest value.

IT MAY be interesting news to those gentlemen who sent a favorable reply to the letter we published in reference to commissions (see JOURNAL, August 26, p. 561), that the letter was written for an ulterior purpose, the same being to find out just who are in the "commission business." We understand that the replies received will be published shortly, although to relieve anxiety we can say that we believe no names will be given.

THE ALVARENGA prize for 1899 has been awarded to Dr. Robert L. Randolph, Baltimore, Md., for his essay entitled: "The Regeneration of the Crystalline Lens—An Experimental Study." The next award, $180, will be made on July 14, 1900. Essays intended for competition may be on any subject in medicine, but can not have been published, and must be received by the Secretary of the College of Physicians, Philadelphia, on or before May 1, 1900.

ON OCTOBER 27 Lady Randolph Churchill presided at a meeting of American women in London to raise funds necessary for the equipment of a hospital ship to be sent to South Africa. A resolution was passed: "That the American women in Great Britain, while deploring the necessity for a war, shall endeavor to raise among their compatriots in England and America a fund for the relief of sick and wounded soldiers and refugees in South Africa."

IT IS said that Dr. Henry Beates, president of the State Board of Medical Examiners of Pennsylvania, is making a searching examination in regard to the charges made against medical students who recently passed the Board, many students being said to have previously obtained the examination questions. The charge of bribery has been made against those who obtained the first list, supposedly from the printer; $500 is the amount believed to have been paid for the questions. Already one of the medical colleges has offered to cooperate with the state authorities in apprehending the guilty parties.

A SPECIAL agent of the Pure Food Commission of Pennsylvania, October 24, has gathered up considerable adulterated foodstuffs throughout the state. A carload of bogus cider vinegar, shipped by a firm in Louisville, Ky., to a party in Allentown, has been confiscated. It is said that the vinegar is a product made of corn and colored with burnt sugar, the cost to manufacture being 1½, and to the consumer 8½ cents per gallon. A large amount of bogus "renovated butter" has also been seized.

DR. S. WEIR MITCHELL, Philadelphia, is becoming a decidedly prolific writer, his reputation increasing with each additional novel. His latest is an elaboration of one published some years ago in the *Atlantic Monthly*, and is entitled "The Autobiography of a Quack." The first installment appears in the *Century* for November. The character of the subject, or hero, is not an enviable one, nor one to add glory to the profession to which he belongs. He is supposed to have graduated from one of the Philadelphia medical schools, and commenced his "practice" in that city. Evidently the subject is to represent the "degenerate" in medicine.

WE HAVE already mentioned the peculiar conditions that prevail at the medical school in Cairo, where every inducement is offered to students but without attracting any. When the school was founded it was under French management and was fairly successful, but since the English took charge it has been deserted. Last year reforms were announced, which have consisted in increasing the salaries of the English professors, "and they deserve increased salaries," a correspondent of the *Journal des Debats* observes, "as for a medical professor there is no punishment to equal that of dissecting cadavers before benches empty of a living soul." The law schools are well patronized. The instruction is given in French and a legal training is the best preparation for official positions, and also "for ousting the English, the dream of the Egyptian youth."

FAMILY DISEASES.—The heredity of disease is an accepted fact. Only in the rarest instances, however, is disease itself so transmitted, but rather the tendency thereto, the anatomic and physiologic peculiarities that render the individual susceptible to the invasion of the materies morbi or to the influence of physical or chemical agencies, or to involution or degenerative changes. A remarkable instance of apparent family predisposition to disease was recently reported by Dr. Carl Beck, before the New York County Medical Association, in which every member of a family of ten had suffered from gall-stones. Four of these patients were exhibited, three others were still living, and three were dead. In one the viscera were transposed, with the heart and the spleen on the right side and the liver on the left.

WITH THE MEDICAL SCHOOLS.—The graduates of McGill University held their second annual banquet the evening of October 20. In replying for the Faculty of Medicine, Dr. T. G. Roddick stated that that Faculty originated in 1824, and for ten or twelve years was the only one in existence in Canada. He thinks that during

all this time it has held its own, not only as the first in this country but also on the whole continent. Buildings can not be erected rapidly enough to accommodate the students; and although the fees were increased this last year, there are more freshmen this year than ever. There are 440 students in medicine this year at McGill. —The regular sessions of the University of Louisville, Medical Department, and Louisville Medical College began recently with larger classes than last year.—The fiftieth annual session of the Los Angeles (Cal.) Medical College opened October 25.

MEDICAL SERVICE IN TRANSVAAL WAR.—The medical service in the present Transvaal war appears to be well organized, though there will be some friction in the working of improvised organizations or under unforeseen and sudden emergencies. Field hospitals already mobilized are being sent from India, England and Australia, and stationary hospital equipments and personal are on their way or already in service. A precaution that has not heretofore been taken under similar circumstances, is the inoculation against typhoid, noted in the Journal of last week (p. 1111), and much interest will be felt in the result by medical and military authorities. If the English can thus stamp out typhoid in advance they will probably have an advantage over their opponents equal at least to one small victory. There are to be in all twelve field-hospitals, four stationary and four general hospitals, each with complete staff and equipment. Several prominent surgeons, among them, we understand, Mr. Frederick Treves, and Sir William McCormac, have volunteered their services. If no great disaster brings trouble and disorganization, the British wounded in the hands of their countrymen are likely to be well cared for.

THE PLAGUE.—According to the *British Medical Journal*, October 21, matters in Oporto, Portugal, are going from bad to worse, and the plague seems to be getting a firmer hold. During the week ending October 15, 30 fresh cases of plague occurred, and 7 deaths from the disease. Since the commencement of the outbreak 161 cases are known to have occurred. This may appear an insignificant total, but the worst feature of the epidemic is that in spite of sanitary precautions, the use of prophylactic and curative serum, and of every measure known to science in Portugal, the number of fresh cases has increased largely. It is some consolation to know, in the event of the possible spread of plague beyond Oporto, that the general consensus of opinion is that in no town in Portugal can the plague find a more congenial home. It is difficult to find a place quite as bad all around as Oporto; the overcrowding is excessive, sometimes as many as fifteen to twenty people occupying a single apartment. When a case of plague appears in such an abode, and the work of disinfection is proceeded with, there is no place for the occupants to go except the street, and, as a rule, they remain there until their home is disinfected. It must not be imagined that the Portuguese are altogether a dirty race; their apartments are neater and cleaner to all outward appearance than in British towns, but overcrowding is rife, and their public sanitation is primitive and inefficient. Many Spaniards reside in Oporto, and it is noticeable that the earliest ascertained cases of plague occurred among them. The Spaniard is much less cleanly than the Portuguese, both in his person and in his household, and were plague to spread in Spain the bacillus would find a much more congenial atmosphere than in Portugal. The costly amusement of the military cordon around the city goes on, but the cordon is no barrier against the extension of the disease; already 9 cases, with 5 deaths, have occurred in a village situated some 12 miles from Oporto, and it is feared the rest of the kingdom will be attacked. The local authorities in Oporto are endeavoring to raise a loan of £1,000,000, whereby to effect radical sanitary reforms. If this energetic spirit prevails we may soon hope to hear of Oporto rehabilitating itself in an improved sanitary condition. No new cases have been reported in Alexandria, Egypt, but in Mauritius, 63 fresh cases had occurred, and 47 deaths during the week ending October 12. In India there appears to be a little change.

# Correspondence.

## London.

*(From Our Regular Correspondent.)*

LONDON, Oct. 21, 1899.

### MEDICAL SCHOOLS.

The opening of the post-graduate schools this session has shown a very considerable falling off in the expected attendance. The London School of Tropical Medicine, in spite of the great public interest taken in it, and the dramatic developments in the past few months in our knowledge of the diseases which it has designed to study, has a class of not more than twelve or fifteen. And much the same state of affairs is reported from both the Polyclinic and the West London Post-Graduate School. And the list of entries in the under-graduate schools appears to show a distinct though less noticeable falling off. The only cause which seems to have been suggested for its shrinkage is the general unsettlement in things medical produced by the war. But while this would obviously account for much shrinkage in the post-graduate classes, it would certainly not apply with equal force to the under-graduate entries. However, it will be remembered that at the outbreak of our own disturbance a year ago, it was believed to have markedly affected the entries in the spring and summer sessions in America, and even to have extended its disturbing effect to those for the next year.

### MEDICAL OFFICERS OF HEALTH.

It is really gratifying to note that the great central sanitary authority of England, the Local Government Board, is at last beginning to appreciate something of the intrinsic value of the services of the medical officers of health. On no less than three occasions lately has it interfered between local municipalities and board guardians in behalf of our defense medical officer. The latest instance is that of the Municipal Council of Bath, which had largely increased the duties of their medical officer but made only a moderate addition to his salary, bringing it up to about $2100. The Local Government Board promptly replied to the illiberal councillors that they considered that the least which ought to be offered was $2500. So the profession is no longer to be left at the mercy of grasping and narrow-minded local authorities.

### MEDICAL CONTRACT PRACTICE.

There are distinct signs that the evils of the club or medical contract system of practice are beginning to call attention to themselves. One of the most shameful defects lies in the fact that the clubs, being primarily monetary and money-saving organizations, have succeeded in securing the medical attendant for a fixed sum, or at a very small percentage, proceed to move heaven and earth to increase their membership and load all the work possible on the medical officer. It was developed a few days ago, in the course of an inquest on the body of a child of a policeman at Westminister, that a club doctor, who had attended the case, had been unable to visit the patient on a particular day, during the time of his attendance, because he had to attend *four confinements* and *eighty* other cases that day. The coroner very properly remarked that clubs which so disgracefully overworked their medical men were the real parties to blame in such matters, and that the huge number of individuals placed by this system under the care of one man was becoming positively prejudicial to the public health and

a serious matter. The jury returned a verdict specially exonerating the doctor from all blame in the matter.

VEGETARIAN CONFERENCE.

Our vegetarian friends have just been holding their annual conference at Manchester, and it is really almost pitiable to see how their once active and apparently successful campaign has dwindled, until it has become little better than a laughing-stock. Indeed, if it were not for the furiously enthusiastic interest which they have developed in the antivivisection and antivaccination campaigns of late years, they would hardly attract any further attention from the profession. A recent meeting of the society in London advised against the use of cheese, on the ground that it was curdled by the stomachs of calves which had to be killed for the purpose. And one speaker actually went so far as to inveigh against the use of "animal" boots. The *opera bouffe* was carried even further at the Manchester meeting, as one of the officers, who we regret to say rejoices in the title of "Dr.," in the course of hailing vegetarianism as the certain and only cure for the drink habit, advised against the use of salt as promoting an unnatural and fictitious thirst, adding the remark, which with the utmost allowance for the mental imbalance produced by a crazy crusade, it is difficult to credit as intended seriously or even uttered at all, that for his part he did not even *drink water!* It may be remembered that some years ago Sam Jones described a certain prohibition community, in which he lived, by the vulgar but vigorous phrase: "we are so dry that we scarcely even spit," but Dr. Sill really appears to have exceeded this.

The antivivisectionists, by the way, in spite of the assistance of their blameless vegetarian allies, are sinking into the most gratifying "innocuous desuetude," through the progress of serumtherapy and its appreciation by the public. Dr. Vivian Poore's epigrammatic allusion to them, in his Harveian oration, as those who "think one guinea-pig of more value than many children," has sunk into the popular mind and elicited a shriek of indignant remonstrance from their chief mouthpiece, Mr. Stephen Coleridge. Their attitude, in fact, by the blessed tendency of all fads to exterminate themselves, has gradually become almost as extraordinary as that of their sister vegetarians. At one of the sessions of the Women's Congress here, one of their leading advocates gravely reminded us that not only were we responsible for all the suffering which we had inflicted on the lower animals in the way of sacrificing them for food, garments, etc., but *also for any suffering which they might inflict on one another*, inasmuch as on man alone rested the responsibility for the introduction of strife into the animal world through his sin in the Garden of Eden. Previous to that all animals were vegetarians! And not a voice was raised in protest against this astonishing logic.

VACCINATION APPOINTMENT.

The Leicester Guardians are still fighting furiously against the inevitable and defying the central authorities by refusing to appoint a vaccination officer. The wise delay of Mr. Chaplin in giving them nearly two months to think it over before actually serving them with the mandamus, has had its effect, for while they were unanimously in favor, two months ago, of going to gaol, and regarded the prospect of martyrdom with great enthusiasm, now it was only after three hours' debate that the resolution to refuse to comply with the mandamus was passed by a vote of 25 to 18, so that there would appear to be hope even for Leicester. Meanwhile vaccination is progressing rapidly under the new act, even in the most pronounced "anti" districts. Hundreds of parents who, like Falstaff, "would not give a reason upon compulsion though reasons were as plenty as blackberries," now that they have been provided with a loop-hole, for the relief of their conscientious scruples, are quietly bringing in not only their newly-born children but three or four or even five older ones who had hitherto defied the vaccinator. The number of vaccinations keeps steadily on at the rate attained some months ago, nearly 60 per cent. more than for the corresponding period of the previous year.

ARMY MEDICAL TONE.

So great has been the warlike enthusiasm of our peaceful profession here in England, that the Government has had to announce that on account of the large number of offers to volunteer for medical service in the field received from surgeons in civil life, it could at present consider no others until further notice. So in spite of her seriously undermanned regular army medical staff, it looks as if the little island still had, as usual, what Mr. Kipling describes as "the luck of the British Army," and would have no difficulty in filling up the gaps in her force with thoroughly competent volunteers, whose enthusiasm would go far to make good their lack of actual experience in the field and camp.

POWER OF MEDICAL OFFICERS

Great satisfaction is expressed in medical circles here over the reported clothing of medical officers, in charge of some of our Californian camps, with executive powers. It is hailed as *the* coming reform which is going to put medical service in war-time, at last, on a really satisfactory basis. So long as mere military men of no sanitary or scientific training whatever are to be left the sole judges of whether measures for the health of the troops shall be carried out or not, the effectiveness of the medical arm in the direction of protecting the health of the soldier is always going to be seriously crippled. If our bitter object-lesson on this point, before Santiago, is going to lead us to take this important step, which will probably serve ultimately as a precedent to the civilized world, our distressing disasters there may be, after all, a blessing to humanity.

FOOD-POISONING.

Two cases of supposed food-poisoning of considerable interest and public importance have been brought to a decision this week, and in both unfortunately the result has been an open verdict. One was the so-called "Inns of Court mystery," which is of double interest to us across the Atlantic both professionally and patriotically, inasmuch as it was a party of Americans who were attacked with symptoms of poisoning after dining together at the hotel of this name, and that the article of food suspected was a can of apricots of Californian production. The conductor of the party of tourists, a Mr. Bartlett, died, and also another guest in the hotel, Mr. Prosser of Birmingham, both with symptoms of toxic gastro-enteritis. All the other cases fortunately recovered. The investigation was most thorough, specimens of all the food used at the dinner being carefully examined, but without discovering anything which could be definitely fixed on as the cause, so the jury had to return the verdict of "death by ptomain poisoning, probably due to the action of bacteria on some article of food partaken of" on that day, with a rider condemning the practice prevailing at the hotel of leaving such articles of food to stand in their open cans for sometimes twenty-four hours before use. (See "Philadelphia," page 1180.)

The other was the even more distressing case of poisoning in the camp at Aldershot, which resulted in the serious illness of twenty-five soldiers and the death of five. In this case, as usual, "American canned goods were first blamed, but the symptoms so curiously resembled those of tyrotoxicon poisoning, that attention was quickly directed to the cheese supplied to the troops. Several samples of this were found to contain abundance of tyrotoxicon, but for some curious reason it appeared impossible to elicit definite evidence that any of the cheese had been consumed, within twenty-four hours, by the men attacked. A curious side-light however was thrown on the situation by the fact that a number of sheep pasturing near the camp had been found dead, and on examining the bodies considerable quantities of cheese were found in their stomachs. This raised a strong suspicion that the men, disliking the taste of the cheese, had thrown it away after perhaps one or two mouthfuls of it, and the sheep picked it up and received its fatal contents. But why no evidence could be got from the men on this apparently simple point is a mystery, unless for some reason they were unwilling to testify, for fear of offending the authorities.

WHISKY CONSUMPTION.

The *Lancet* is greatly concerned over the recent revenue reports which indicate the enormous consumption of whisky in the United Kingdom, and a marked increase in this over previous years. And the return is somewhat staggering, making as it does an average of nearly one gallon of the liquid going under this name—which, as all Americans who have sampled it will testify, is almost like methylated spirit, by comparison with the delicately-flavored Kentucky article—per capita, for

every man, woman and child in the United Kingdom. As might have been expected, the death-rate from alcoholism has mounted in similar proportion, so that in ten years the increase has been 82·5 per cent. in males, and in females, *horrible dictu*, 145 per cent. The last item has certainly a most gruesome sound, but inasmuch as the actual rate is only 97 per million living per annum among males, and 59 per million living among females, it can hardly be considered a very appalling or serious state of affairs as yet. And if anyone will take the trouble to walk through the London back streets and slums, and note the type of human animal on which this death-rate falls, he will find much to console him, if indeed he is able to suppress an inhuman reflection to the effect that if alcohol is to eliminate any element of the community, it could hardly have made a better choice in the interests of the whole. We have at the other end of the scale the encouraging fact that not only is the consumption of beer in proportion to whisky markedly increasing, but that the demand is steadily growing for lighter and lighter qualities of the former. The German lager beer is now to be had at almost every third or fourth bar in England, and the great firm of Allsop & Co. has just opened a large and expensive new department for the purpose of supplying this class of beer alone. Thoughtful men in the profession are of the opinion that while the total consumption of alcohol is increasing, intemperance is steadily diminishing, in spite of the appalling bulk-figures which can be collected by total abstainers. And some of them add also the unorthodox opinion that total abstinence is now to be regarded as an experiment which has been tried and failed. In other words, the race seems to be painfully but steadily working its way to a condition of equilibrium and temperance in the matter of alcoholic indulgence, partly no doubt by the steady elimination of those who are unable to attain this balance.

## Canada.

*(From Our Regular Correspondent.)*

TORONTO, Oct. 28, 1899.

MEDICAL "ADVERTISING."

The Medical Council of Prince Edward Island, at a recent meeting, passed the following "Minute."

WHEREAS, The practice of publishing in the press—whether with or without the connivance of the medical man—of so-called great cures and brilliant operations has become very common, which practice besides being very disgraceful in itself, is dishonoring to the profession and by its deceptive character is injurious to the public interest; therefore,

*Resolved*, That the Medical Council, on behalf of the medical society, hereby express its strong disapproval of the practice, and henceforth will not consider the physician blameless, unless he can clearly demonstrate his non-complicity in such advertisements; also with a view to the interests of the public, which may be deceived and misled by exaggerated and ignorant statements; also with a view to the protection of honorable medical men, who may be wrongly accused of complicity; it is also

*Resolved*, That the press shall be respectfully asked to refuse insertion in their columns of detailed descriptions of comments on medical and surgical practice, unless such shall be signed by the medical men themselves.

Commenting on the above, editorially, one of the lay weeklies thinks that the "Minute" affects the profession more than the press, because the press can not be bound by any such, and will, notwithstanding the "Minute," do its duty on occasion in respect to medical cases as well as to others. It further states that the public has no business with these private operations of surgeons; and the newspapers have certainly no interest in puffing the doctors.

ST. LUKE'S HOSPITAL, OTTAWA.

The report for the past year shows that 914 patients were admitted to the various wards. Of these, 833 have been discharged, 48 have died, 33 remaining. These patients had an average stay of 19.32 days. The class of cases in the institution were nearly all of an acute and curable character, and in no sense chronic. The average number in the hospital each day was 40.53, which is encouraging considering the accommodation and the early history of the institution. As several entered in a dying condition or suffering from mortal wounds—the register shows that 18 of the 48 died in three days after admission—the death-rate is only 3.2. Of the 833 patients discharged, 650 were cured, 164 improved and 19 incurable.

VICTORIAN ORDER OF NURSES.

Lady Aberdeen is in Canada looking into the workings of her pet scheme, the Victorian Order. So far the work has not been disappointing; but there has not been that frenzied rush into its ranks which was anticipated. The main object is the rendering aid in times of sickness to those who are too poor to go to the hospitals and those who refuse to go. No charge is made, but if the people so assisted can afford to contribute to the funds of the association, a fee ranging from 5 to 50 cents is thankfully received. In one month alone, 482 visits were made and of these 204 were non-paying and 278 contributed something. All creeds and nationalities, even Chinese and Armenians, have participated in this assistance and received treatment. Altogether since the order was first commenced in Montreal, 430 patients have been treated, 6432 visits have been made, and 90 members of the medical profession in that city have made use of the order.

INFANT MORTALITY IN MONTREAL.

In regard to the marked mortality in Montreal, as compared with other cities, active measures are being taken by several philanthropic women toward the formation of a society whose aim shall be the prevention of this heavy death-rate among infants whose homes are in the poorer parts of the city. Dr. Laberge is lending himself as the medical health officer of the city, to the movement, and is apparently perfectly satisfied that the society would be instrumental in saving the lives of hundreds. The city will be divided into sections, each section to be regularly visited by medical men, nurses and others, whose duty it "shall be to advise the poor how their babes are to be handled during the heated term, especially when they are attacked by stomachic and intestinal disorders. As the ladies who are getting up this society have offered to contribute to its maintenance liberally, Dr. Laberge suggests that the medical men and others employed by the society shall be paid for their services; then as the society progresses, efforts will be made to supply the very poor with free milk for their infants, as well as free ice for the preservation of the milk.

THE CANADIAN CONTINGENT.

The departure of one thousand citizens of the Canadian Dominion to participate in the wars of the British Empire in South Africa was a notable event of the week. The five or six hundred medical students in Toronto turned out in full force on the day of the parade in this city, to do honor to two of their number who had volunteered for active service in the Transvaal, privates Jordan and Anderson, respectively members of the Toronto and Trinity Medical schools. On account of the large amount of life assurance placed on members of the contingent, many of the examiners for these companies were kept unusually busy for several days.

INCREASE OF LUNACY IN ONTARIO.

The report of the inspector of asylums in Ontario, now being made up, will state that there are more lunatics in the asylums of the province than ever before. It is a well known fact that these institutions in this province are taxed to their full capacity and that there is not enough room in them to house all the lunatics of the province, as some are lying in gaols awaiting vacancies in the asylums; and for others, applications are in but can not be acted on owing to there being a lack of accommodation. Such being the condition of affairs, it surely becomes the bounden duty of the provincial government to set about arranging for the erection of additional accommodation for these people, to provide for the increase. Although the inspector does not attribute the increase to the fact of there being more lunatics in the province, but rather that the government, in making better provision for their maintenance, has more cognizance of the existence of lunacy in the province, he thinks possibly that lunacy may be if anything decreasing throughout the province, but increasing so far as it comes within the knowledge of the government; and that the decrease in totality may be due to the returning tide of prosperity, resulting in less worry and less lunacy.

THE DOUKHOBORS IN THE NORTHWEST.

Dr. William Saunders, director of the government experi-

mental farms, has just returned to Ottawa from a visit to the Doukhobor settlements. He speaks of them as a very industrious and frugal people. They are all vegetarians and will not eat animal food, as they consider it a sin to kill. Most of them, however, will eat fish, butter, cheese and eggs, but as yet they have very little of these concentrated classes of foods. They subsist mainly on bread made from a low grade of flour, with a flour and water soup, vegetables added. Their houses and furniture are very primitive in their construction, the beds being made of a series of poplar poles about six feet long and three or four inches in diameter, placed close together along one or both sides of the house with the ends to the wall. Over these some hay is placed and on this a thick piece of felt. At present many of these houses are occupied by from ten to twenty people, and in some of the larger dwellings the inmates number thirty or forty. Each village is provided with a steam bath-house, in which steam is generated by pouring water on heated stones. In this manner profuse perspiration is brought about, and in the absence of towels, the body is whisked briskly with a bunch of the small branches of the mossy cup oak. They are further described as being of cleanly habits, using neither liquor nor tobacco. Even on their vegetable diet, they appear to be strong and hardy and will no doubt prove in time a desirable class of people in the community and assist much in that country's development.

## Philadelphia.

STEPS are being taken to revive the Woman's Health Protective Association, which died some time ago owing to factional disturbances.

THE HEALTH authorities here have seized 12 diseased cattle. Six animals were promptly slaughtered and found to be suffering from tuberculosis. They came from New Jersey.

THE BOARD of Directors of the Episcopal Hospital has selected the following resident physicians of that institution: Samuel M. Ziegler, S. E. Moore, W. C. Drein, W. A. Steel and George B. Dandy.

A MEETING of the Faculty of Medicine and Board of Trustees of the University of Pennsylvania was recently held for the purpose of determining the appropriation for the new laboratories to be built by that institution. Plans and specifications have already been drawn.

DURING the past year considerable improvement has been made at the League Island Navy-Yard, the barracks enlarged and a laboratory added. The number of men who applied for service at the United States ship *Richmond* was 2135, of whom 907 were received and 1228 rejected.

THE NUMBER of deaths occurring in the city during the week was 342, a decrease of 46 over that of last week and of 6 over that of the corresponding period of last year: The principal causes were: apoplexy, 15; tuberculosis, 43; pneumonia, 27; diphtheria, 19; scarlet fever, 4; typhoid fever, 4.

IN THE case of Professor Bartlett, of this city, who died in London last year under somewhat peculiar circumstances, a coroner's jury returned a verdict on October 21 to the effect that death resulted from gastro-enteritis superinduced by ptomain poisoning. The foodstuff was eaten at the Inns Court Hotel of London, July 26. At the time a number of other Americans were also affected. (See also page 1178.)

THE STATEMENT of Dr. T. D. Crothers, Hartford, Conn. (see page 1165), "of the 3244 practitioners of whom he knew 681, or 21 per cent. were using opium," so far as it applies to Philadelphia is incorrect. On the contrary, if one should go to hospitals, in search of this information, it would probably be found that the opium habit is not as prevalent as was formerly the case. (See also page 1178.)

WHETHER the automobile is destined to take the place of the horse and carriage in the City of Penn remains to be seen. At present many designs have been placed on the market and the advantages of each explained. As a sanitary measure their introduction needs little else to be desired except that some precaution might be designed by which to relieve the follower of these vehicles of the trail of dust stirred up by the broad surface of the tires. Already one of the West Philadelphia physicians has invested in one of the vehicles, and others may follow his example.

THE QUESTION as to how the cases of typhus fever gained entrance to this city on the vessel *Aragonia* (see JOURNAL, October 21, p. 1051), is still eliciting considerable interest. It would appear that when the vessel landed at the quarantine station, the disease had not developed to that extent that a differential diagnosis was possible. It is true that prodromal symptoms were present, but that did not suffice in discriminating in favor of typhus fever. One of the physicians who saw the cases early in the onset was led to believe that they were cases of cerebrospinal fever. The quick work in isolating the cases, and the placing of a strong cordon around those who had been placed in quarantine had a soothing effect, as well as limited the number of cases. No subsequent ones have developed. At the last meeting of the Philadelphia Pathological Society Drs. W. M. Welch and David Riesman presented a paper on the autopsy findings in the fatal case.

DIPHTHERIA cases reported last week numbered 89, with 13 deaths; this week a steady increase has been shown and 103 cases are recorded with 19 deaths, or a mortality of 17 per cent., which might have been expected at the beginning of the school session when the germs of the past summer have been allowed to harbor in their favored haunts. While more care is exercised in regard to the management of the day pupils, we are informed that those who attend the same schools at the night sessions do so with a rather free hand. The Bureau of Health has ordered an inspection of certain school houses. The cases of diphtheria during the past year numbered 3065, with 624 fatal, a mortality of 22 per cent.

JUDGE PENNYPACKER has found that the University of Pennsylvania's origin dates back to 1740, when a charitable school was founded in Philadelphia. Part of the building was first utilized by George Whitefield, the famous preacher, while the other was used as a charity school and for the instruction of children in regard to the Christian religion. Whitefield filed a deed in 1749 conveying the building to the Academy to be maintained as a charity school. In 1753 it became the College of Philadelphia and later the University of Pennsylvania. The clause in the charter of 1791, providing for free scholarships in the institution, is still in vogue at the University.

CASES of variola are yet being found in certain districts of the city. In most cases the patients become startled when told that they are suffering from smallpox. In a recent paper read before the Philadelphia County Medical Society Dr. W. M. Welch offered an explanation as to how the first case gained entrance to the city. In most places in the South smallpox has been very mild, and it is believed that persons affected were allowed to pick cotton, when the scales would drop off, to be subsequently placed in bales. In his opinion one such case originated from a bale of cotton shipped to this port. Most of those affected have been negroes. What is now puzzling many is that the hospital for infectious diseases is in an overcrowded condition, and should a severe epidemic break out it would be a question as to where the patients could be properly isolated. As has been frequently mentioned in the JOURNAL, there has long been a strong effort to have the Municipal Hospital removed to another site, where a larger hospital could be erected. Another question of importance is that an effort will doubtless be made to allow medical students to visit this hospital, where they could easily acquire the necessary knowledge in differentiating between smallpox and other eruptive disorders.

## Baltimore.

DR. N. G. KEIRLE, JR., has been appointed assistant resident physician at Bayview Hospital.

DR. HENRY HODGES STANSBURY, of Cumberland, was married October 25 to Miss Lily Miller, in this city.

DR. HARRY LEE SMITH has been elected lecturer on bacteriology in the Woman's Medical College.

THE MARYLAND General Hospital—connected with the Baltimore Medical College—has received a bequest from the late George R. Goldsborough, Easton, of $6000 for the endowment of a bed for the white sick of Talbot County, Md.

RICHARD GRADY, M.D., D.D.S., has been appointed dentist to the United States Naval Academy at Annapolis, at a salary of $1600. There have been but two incumbents of the office since the founding of the Academy in 1845, Dr. Walton, who resigned, having served since 1856.

DRS. HARTIGAN and Gabriel A. Trad have been appointed resident physicians at the City Hospital.

THE HOSPITAL for consumptives will make an addition which will include modern flush water-closets and enameled bath-tubs, and in the spring will erect another cottage.

CHISEL EMBEDDED IN FACE AND THROAT FOR ELEVEN WEEKS.

On October 25, at St. Joseph's Hospital, a chisel was removed from the face and throat of Charles C. Baker by Prof. L. McLane Tiffany of the University of Maryland. The chisel, which was 5½ inches long, 1 inch wide and ¼ inch thick, had been driven into the face, sharp end foremost, just to the right of the root of the nose. Mr. B. was at the time operating a steam-driven machine in the shops of the Geiser Manufacturing Company, Waynesboro, Pa., and was bending over with his head close to the machine. In the latter were two chisels of steel revolving at the rate of 1200 revolutions per minute. The chisels in some way became detached and one of them was shot with great force, entering as stated above, flat side foremost, destroying the right eye, and pasing downward and backward, burying itself out of sight and narrowly missing the jugular vein. The wounds were dressed by a physician and soon healed, but about three weeks ago the patient began to complain of stiffness in the muscles of the neck, and paresis of the nerves of the face and throat developed, and he was brought to Baltimore for treatment. The head was pinioned in a bent-forward position, speech indistinct, swallowing difficult and impossible for solids. By oral examination Dr. T. could feel the chisel, and, on depressing the tongue and raising the soft palate could also see it. X-rays determined the exact position, already indicated, the sharp end lying against the fifth cervical vertebra and the blunt end opposite the middle turbinated bone. From the difficulty of swallowing the man had become greatly emaciated. The chisel had to come out by the route by which it entered, so tracheotomy was performed under cocain, and the next day the patient was put under chloroform and inverted. An incision was then made extending from the eyebrow along the right side of the nose and through the median line of the upper lip to the mouth. The nose, with skin, muscles, etc., was separated from the bone and carried over to the left, also the nasal bones; the tissues to the right of the incision were in like manner drawn over in that direction. With a bone forceps a portion of the superior maxilla was cut away, exposing the chisel lying about 1½ inches below the surface. Removal, which was much less difficult than had been anticipated, was effected with a pair of strong forceps. The nasal bones were replaced and the soft parts united by sutures. The patient was doing well at last report.

## Chicago.

SINCE the opening of the schools nearly two thousand cases of diphtheria and scarlet fever have been reported to the Health Department. These diseases have been spreading so rapidly that the eight inspectors have been unable to promptly disinfect the houses. As a result many convalescents have returned to school and spread the contagion. Many of the recent cases were caused by contact with some of Dowie's "patients." Unless the Board of Education takes action in the matter, the city council will be asked to appropriate a sum sufficient to employ additional inspectors.

A REGULAR meeting of the Physicians' Club was held October 30. The sanitary drainage canal was the topic of the evening. Remarks were made by Chief Engineer Isham Randolph, Lyman E. Cooley and Health Commissioner Reynolds. The following resolution offered by Dr. C. S. Bacon was adopted:

*Resolved*, That the Physician's Club of Chicago commends all efforts aimed at the restriction of infectious diseases in the community, and specifically believes in the plan of medical inspection of the schools now under consideration by the Board of Education of this city. This plan is in accord with the present state of medical knowledge, and we believe that by its faithful execution, sickness and mortality from the acute infections will be materially reduced.

AT A meeting of the School Management Committee of the Board of Education, October 26, Dr. W. S. Christopher, one of the trustees, urged the appointment of medical inspectors to prevent, as far as possible, the spread of contagious diseases in the public schools. The following recommendations were made by the Committee: That the Civil Service Commission be requested to hold a special examination and certify to this Board fifty medical school inspectors. That the Board appoint the fifty inspectors as certified, at a salary of $50 a month, and attach them to the Department of Compulsory Education, and assign them to duty under the direction of the Commissioner of Health, the inspectors to remain on duty throughout the school year, except during vacations and during the month of June; total cost not to exceed $20,000 per annum. That the Board hereby directs that all pupils who have been absent from school continuously for four days or longer, shall be examined by the medical school inspectors, and cultures made from their throats for examination by the City Health Department, and shall be pronounced free from infection by the Department before being allowed to resume class work.

## New York City.

BY THE will of the late ex-Justice Charles P. Daly, $5000 is left to the Northern Dispensary of New York.

NOTWITHSTANDING the protest of the Tenement House Committee of the Charity Organization Society, and other citizens interested in tenement house reform, the mayor has signed the new building code recently rushed through the Board of Aldermen and Municipal Assembly. The enactment of this is considered a step backward by the best architects and other experts who have examined it.

THE AVERAGE death-rate for six weeks ending October 14 has been 17.13 per thousand, as against 20.78 for the corresponding period last year. The lowest mortality record for many months was for the week ending September 30, when the death-rate was 15.87. Comparing the figures of the six weeks ending October 14 with the previous six weeks, a marked decline in the death-rate from all prevalent diseases except typhoid fever and pneumonia is noted, this decrease being most noticeable in the deaths from diarrheal diseases, which diminished from 261 for the last week in July to 36 for the week ending October 14. Somewhat strangely, it is noted that whooping-cough was unusually prevalent during the summer months. For the period mentioned, the deaths from diphtheria decreased from 23.5 to 21.6 per thousand, that of measles from 7.5 to 6, of scarlet fever from 4 to 3.3, and those due to pulmonary tuberculosis from 145.5 to 138.3. The weekly average, on the other hand, from typhoid fever, increased from 13.6 to 18.3, and from pneumonia from 82 to 107.

IN RECOGNITION of the services rendered by Dr. E. Eliot Harris, chairman of the Committee on Legislation of the New York State Medical Association, in connection with the dispensary legislation of last winter, his brethren in the profession presented him with a silver tea service recently.

## Louisville.

HEALTH OFFICER ALLEN is making every endeavor to influence physicians of the city to make proper returns to the health office, in order to bring the department up to the standard and carry out public health work. The ordinances quoted are thoroughly comprehensive and include the following—there being a penalty of from $25 to $50 for violation: Reporting the births by physician, midwife or other person assisting at a birth within seven days thereafter. These include the date of birth, sex, color, name of parents and maiden name of mother; reporting cases of consumption, whooping-cough, typhoid fever—these for the use of the Department and in no case to be given out for publication; reporting diphtheria, croup, scarlatina, smallpox, varioloid, and prescribing length of quarantine These have been enacted at various times and are now included in one notice to Louisville physicians. A more comprehensive death return would be an improvement for statistical records, as well as department information. It would be well also for a closer scrutiny to be made of the causes of death given, those in the published death returns being incomplete, unscientific and useless as far as statistics are concerned. Such as the following are given as causes of death: hemorrhage, cancer, bowel trouble, consumption.

THE NEW wing of St. Joseph's Infirmary has been completed and thrown open. It is three stories in height, has three large wards and many private rooms, parlor, offices and a new oper-

ating-room. This latter was much needed as it was frequently inconvenient with only one operating-room. The house is open to every physician, there being no visiting staff, and emergency cases are frequently encroached on the time of those who had engaged the room for a certain time. Louisville is now well equipped with hospitals and infirmaries.

THE FORMAL transfer of property was made to the medical department of Kentucky University on October 15 by Captain Miller, who had used the property as a residence. It is admirably equipped—a palatial home—and the needed repairs will be made at once, to be ready for the beginning of the session, January 1. A new operating amphitheater will be built and a few minor changes made.

## Book Notices.

PULMONARY TUBERCULOSIS. Its Modern Prophylaxis and the Treatment in Special Institutions and at Home. Alvarenga Prize Esasy of the College of Physicians of Philadelphia for the Year 1898. Revised and Enlarged. By S. A. Knopf, M.D. (Paris and Bellevue, N. Y.). With Descriptions and Illustrations of the Most Important Sanatoria of Europe, the United States and Canada. Philadelphia: P. Blakiston's Son & Co. 1899.

This volume, which, as its title page shows, is substantially the same as the Alvarenga Prize Essay for 1898, is probably the best general statement of its subject now extant. In the flood of literature on tuberculosis at the present time, it is well to have a fair, scientific, standard monograph on the subject, and this comes as nearly meeting this demand as any work that has yet appeared. It has, moreover, the very great advantage of being written in a readable and technical style, so that it is in its present form available as a semipopular treatise on its subject. While some opinions here expressed may be modified with advancing knowledge, the author is generally on the safe side, which is a merit in a work of this kind. Another merit is the usual avoidance of extreme statements or the advocacy of such measures as would work serious hardship and which are now being advocated by some. Dr. Knopf, for example, does not favor the compulsory notification of tuberculous cases. It is quite possible that at some future time we may look back to some of the recommendations and advice that now seem reasonable, and consider them as extreme, but just now they are in the fashion and so far as they are practicable they are on the safe side. We regret, however, to see that, by what must be an oversight, the mortality from consumption is magnified tenfold in the table on pages 27 and 28. It should certainly not read, "the mortality from pulmonary tuberculosis for each *thousand* persons living" (italics ours).

Probably the really successful tactics in combating consumption are to be found in improved general sanitation and in building up a healthy and resistant vitality in the race. This is recognized by the author, though the fact is masked a little by the space given to preventive details in the case of the disease already existing. He does not underestimate the curability of the disorder, and the facts we learn are certainly encouraging. The book is, as already stated, likely to be a standard work on its subject for some time to come.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS: A Manual for the Use of Physicians, Surgeons and Students. By Charles W. Purdy, M.D., LL.D. Fourth, Revised Edition. With Numerous Illustrations, including Photo-engravings and Colored Plates. In one Crown Octavo Volume, 365 pages, bound in Extra Cloth, $2.50, net. Philadelphia, New York and Chicago: The F. A. Davis Co.

The author, in the preface to the present edition, states that he has made many changes, particularly in the chapters on the chemistry of the urine, to keep abreast with recent advances. In general he has brought his book to a very high standard of excellence and utility. Still there are a few pages which might be improved on. For the determination of uric acid, for instance, the author recommends Heintz' method of precipitation by hydrochloric acid. This procedure, according to Salkowski, Naisch and others, is inaccurate. Besides, it requires a determination by weighing on fine chemical scales, which are almost never in the possession of the general practitioner. In a text-book for the use of the latter, it would undoubtedly be better to recommend and give in detail Arthand and Butte's method of titration with cuprous hyposulphite, with a 10 per cent. solution of potassium and anthoyenate as indicator. This latter method, according to the experience of the reviewer, is comparatively simple, reliable and accurate.

What Purdy gives as the "author's method" of determination of sugar is a modification but not an improvement on the orthodox titration with Fehling's normal solution. If the latter is kept in two separate bottles—one containing the solution of the sulphate of copper, the other one the caustic potash and the tartrate of sodium and potassium—a mixture of equal parts of the two component fluids will always furnish an exact basis for the titration, while all so-called permanent mixtures are, in fact, not stable. In Purdy's modification the calculation is besides more complicated, than if one uses 20 c.c. of Fehling's normal solution, the cupric hydrate of which will be reduced by 100 mg. of grape sugar. The book is profusely illustrated.

GENERAL PATHOLOGY, or The Science of the Cause, Nature and Course of the Pathological Disturbances Which Occur in the Living Subject. By Ernst Ziegler. Translated from the Ninth Revised German Edition, by Drs. Theodore Dunham, Edward M. Foote and others. Editor, Dr. Albert H. Buck. New York: William Wood & Co. 1899.

Besides an editorial note in regard to the ommission of the bibliographic references of the German edition, there is nothing in this volume to indicate the publication in this country of any previous translation of Ziegler's Pathology. We may, therefore, accept it as a new translation, at least in large part. Two chapters, iv and vii, on retrograde tissue changes and tumors, respectively, have been entirely rewritten from the eighth edition, and certain changes made in the classification, etc., while the work as a whole has been thoroughly revised. It appears to be very fully brought up to include the most recent researches, and in its present form is a very valuable addition to our medical literature. The illustrations have also been increased in number and add materially to the value of the work. The omission of the bibliographic lists is, as the editor states, of little importance to the average student and, therefore, not a very material drawback to the work as a text-book. It is, however, something of a question whether their insertion would not have been fully appreciated by a considerable proportion of those who will use the work for reference or otherwise.

MANUAL OF BACTERIOLOGY. By Robert Muir, M. A., M. D., F.R.C.P.Ed., Professor of Pathology, University of Glasgow, and James Ritchie, M.A., M.D., B.Sc., Lecturer in Pathology, University of Oxford. Second Edition. 126 Illustrations. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company. 1899.

In this second edition the authors have, as they say, made no change in the plan of their work, but have carefully revised their text and incorporated the results of recent researches, thus considerably increasing the size of the volume. So far as we can see it is an excellent statement of the principal facts and theories regarding bacteria and their pathologic relations to the human species, and as nearly up to date as could be reasonably expected. Some subjects are treated only briefly, but that is to be looked for in a work of this compass.

## Deaths and Obituaries.

SIMEON S. TODD, M.D., Kansas City, Mo., the first physician of and first president of the Board of Health of Kansas City, and one of the founders of the Kansas City Medical College, and founder of the College of Physicians and Surgeons in 1869, died at his home, October 19, aged 73 years. He was a graduate of the Indiana Medical College, served as surgeon in both the Mexican and Civil wars, and wrote a number of works on obstetrics, one of which won him a fellowship in the Society of Science, Letters and Arts, London, in 1887.

P. A. BOYER, M.D., Selins Grove, Pa., died October 23, at the age of 43. He was a graduate of the University of Pennsylvania Medical Department, 1881, and at the time of his death a member of the State Board of Vital Statistics.

S. VEIRS MACE, M.D., died October 14, near Rossville, Md., from heart disease. He was 39 years old and a graduate in medicine of the University of Maryland, class of 1884.

THOMAS JEFFERSON JACKSON, M.D., College of Physicians and Surgeons, Baltimore, Md., 1879, died October 26, aged 50 years. He was born in Baltimore County, Md., was a member of the AMERICAN MEDICAL ASSOCIATION and well known in medical and fraternal circles. He also served a term in the Springfield Board of Education.

JOHN B. HIBBEN, M.D., Kansas City, Kan., died October 27, from disease of the kidneys. Dr. Hibben was head physician of the Modern Woodmen of America for Kansas and Oklahoma, and consulting physican at the Missouri Pacific Hospital in Kansas City, Mo. He was 46 years old.

HENRY JUDSON KELLY, M.D., New York City, a graduate of the College of Physicians and Surgeons, aged 42 years, died of pneumonia, October 15. He had been connected with the New York Hospital since his graduation, and was a member of the faculty of the Post-Graduate Polyclinic school.

DAVID CLARK CARD, M.D., Willimantic, Conn., aged 77, died at his home, October 16. He was a graduate of the New York University of Medicine, 1849, and in the Civil War was assistant surgeon of the First Conn. Heavy Artillery.

JOHN BENBOW, M.D., Gilliam, Mo., died October 17, aged 48 years....S. S. Christy, M.D., Pittsburg, Pa., October 13....H. P. Eaton, M.D., Baltimore, Md., October 15, aged 88 years....S. B. Ellis, M.D., Dayton, Ohio, October 21....George Hamilton, M.D., Millport, Ohio, October 18, aged 45....C. R. Jakes, M.D., Wilmington, Del., October 26, aged 45....A. T. Lincoln, M.D., Dennysville, Me., October 18....James McTaggart, M.D., Detroit, Mich., October 18....W. R. Maddox, M.D., Washington, D.C., October 26, aged 86....H. D. Robertson, M.D., San Francisco, Cal., October 19....W. T. Ropp, M.D., Delaware, Ohio, October 20....Philip Scheu, M.D., New York City, October 21, aged 41 years....J. J. Seward, M.D., Erie, Pa., October 22, aged 43 years....S. A. Sherman, M.D., Cherokee, Iowa, October 14....Robt. P. Smith, M.D., Santa Rosa, Cal., October 19, aged 50....T. W. Thornton, M.D., Kansas City, Mo., October 23, aged 70.

DEATHS ABROAD.

A. C. PAGE, M.D., Truro, N.S., died October 23, aged 72 years. He was graduated in medicine from Harvard, in 1856, was a past president of the Nova Scotia Medical Society, and under the provincial government had been inspector of hospitals and asylums, up to one year ago, when he resigned on account of ill health.

# Miscellany.

**Defensive Reaction of the Organism.**—Professor Soulier of Lyons attributes the agglutination reaction to the general plan of defense of the organism against infections, which he outlines as follows: the general defensive reaction of the organism occurs in the blood, liver, kidney, visual field and fever. In the blood, the agglutinating reaction, Pfeiffer's phenomenon, the alkalinity of the serum, the leucocytosis for the purpose of augmenting phagocytosis and the resistance of the red corpuscles, are all facts indicating an energetic defensive reaction. In the liver, the coloration of the feces by bilirubin, the presence of urobilin in the urine, alimentary glycosuria from which we can estimate the glycogenic function of the liver, are all significant indications of the activity of the organic defense, as also in the kidneys, the urotoxy, azoturia, diazo-reaction and elimination of aromatic substances. Contraction of the visual field suggests an unfavorable prognosis. Fever below 39 C., accompanied by a moist skin, is a most precious indication of defense and oxidation processes. The scheme thus sketched is a guide to therapeutics, and Soulier considers intravascular injections the promptest means to place the medicinal agent at once where it will most effectually sustain the elements of the organism in their struggle.—*Progres Med.*, x, 30.

**The Plague in Art.**—Six full page engravings are given in *Sem. Med.*, September 27, of the chief works of art representing the plague at various epochs: Saint Rocco, by Parmesan, 1503-40, pictures the characteristic lesions on the thigh, and Tintoretto's drawing, a group of persons affected. Mignard's large painting, 1610-95, represents the plague in Judea, when 70,000 men died in the three days' plague (II Sam., xxiv). The chief figure in the foreground is a young surgeon who is sinking to the ground in a dying condition, while engaged in opening the abscess in the axilla of a dying woman. "The Philistines Succumbing to the Plague" is a painting 4½ by 6 feet, in the Louvre, by Poussin; 1630. The Philistines had carried off the Ark of God and placed it in the Temple of Dagon, and all the men of the city were "smitten with emerods in their secret parts." (I Sam., v). Five rats are given prominent place in the picture, as their priests and diviners directed them to return the Ark with a trespass offering to consist of "five golden emerods and five golden mice, according to the number of the lords of the Philistines"—"images of your emerods and of your mice that mar the land." "Troy's Plague at Marseilles" was painted in 1722, and is now in the Marseilles museum. It is a striking picture of the seacoast city, representing the scene when Chevalier Rose assumed command of the convicts sent from Toulon to clear the city of the piles of corpses of plague victims. Another large painting in the Louvre depicts Bonaparte visiting the plague victims at Joppa in 1799. While his companions hold cloths to their noses, the general walks erect and even puts his hand on the plague victim who is showing him the lesion in the axilla. Raphael's famous plague picture is not represented, as it was impossible to obtain a good cut of it for reproduction. (For bubonic plague in literature, see JOURNAL, xxviii, p. 716.)

**Intoxication with Antipyrin.**—Stomatitis and eruptions (*Jour. de Med. de Paris*, October 8) have been reported following the use of antipyrin; Granl noticed on himself a vesicular stomatitis, an erythema on the knees and thighs and eczema of the scrotum on three different occasions of ingestion of antipyrin. Collapse after five grams, once after one gram, has been reported; also the death of two patients with arteriosclerosis and angina pectoris after the injection of one gram. In a case of whooping-cough there was somnolence and spasms after administration of 1.20 gram in three doses, during three weeks. A child had fever at 40.8 *c.*, and a two-hour chill after two doses of a gram.

# Queries and Minor Notes.

## AN UNETHICAL PRACTITIONER.

SAN FRANCISCO, CAL., Oct. 17, 1899.

*To the Editor:*—Will you kindly answer the following questions? I am intending to advertise as a specialist of venereal diseases—male only—and solicit custom through the newspapers and by circulars. I do this simply to obtain custom, and not to sell so-called "cure-alls," or other compounds, ready-made mixtures or prescriptions. I will treat every patient individually as near as I can, and my judgment and experience dictate, according to the treatment as laid down in the works of Bumstead, Van Buren and Keyes, Taylor, Durkee, Acton, Lydston, Ricord, Hammond, Hutchinson, Curling, Von Zeissl, Gross, and many others of less note. My "practice," you see, will be regular, although my means of obtaining it is unethical. Now as to the whyfore of this long preamble: I wish to know if my practice comes under the ruling of the Internal Revenue Collector, under "Schedule B," which makes it obligatory to stamp "All mixtures, or prescriptions by whomsoever sold, the demand for which is created by circulars, circular letters or public advertisements," etc., or does the above "mixtures or prescriptions" refer to already-compounded mixtures or medicines, that are ready to hand out, or send by mail or express, and not compounded to fit the conditions as represented in each individual case? Yours very truly, T. C.

ANSWER:—We do not feel like giving advice to a practitioner who admittedly follows unethical methods, and are happy to say that in this case we do not feel competent. The Commissioner of Internal Revenue can attend to the case if the revenue law is violated, and he is the proper authority to be consulted.

## METHYLENE BLUE IN INSANITY.

JACKSON, LA., Oct. 15, 1899.

*To the Editor:*—I am very much interested in the treatment of insanity or acute mania with methylene blue. I have difficulty in using it hypodermically. A practical non-irritating formula for the hypodermic use of this would be highly appreciated. Very respectfully, J. W. L.

ANSWER:—There is no solution of methylene blue which is non-irritating when used hypodermically. The drug, moreover, is practically valueless, in our opinion.

## SANATORIUM WANTED.

SULLIVAN, IND., Oct. 27, 1899.

*To the Editor:*—Could you send me the address of one or more sanatoriums located in the south, with rates within the reach of a person in moderate circumstances? The patient I desire to send has a lung trouble, not tubercular, at least the family history, personal examination or microscope does not reveal such. WALTER N. THOMPSON.

# The Public Service.

**Movements of Army Medical Officers** under orders from the Adjutant-General's Office, Washington, D. C., from October 19 to and including Oct. 26, 1899:

Amos W. Barber, acting asst.-surgeon, from Cheyenne, Wyo., to duty at Fort D. A. Russell, Wyo.

William J. Boyd, acting asst.-surgeon, from Fort Riley, Kan., to duty in the Department of California.

Alfred E. Bradley, major and surgeon, U. S. Vols., member of a board convened at St. Paul, Minn., to examine officers for promotion.

John Carling, acting asst.-surgeon, to accompany the 47th Vol. Inf. from New York City to Manila, P. I., where he will report for duty in the Department of the Pacific.

Walter Cox, lieutenant and asst.-surgeon U. S. A., member of a board convened at Fort Riley, Kan., to examine officers for promotion.

George D. DeShon, major and surgeon 11th Cav. Vols., sick leave granted.

Charles M. Gandy, captain and asst.-surgeon, U. S. A., from Fort Slocum, N. Y., to accompany the 43d Inf. Vols. to Manila, P. I., where he will report for duty in the Department of the Pacific.

Robert J. Gibson, major and surgeon, U. S. A., member of a board at San Francisco, Cal., to examine officers for promotion.

Stephen M. Gonzalez, acting asst.-surgeon, to report to the Superintendent Army Transport-Service for transportation to Porto Rico.

Albert Hartsuff, lieutenant-colonel and deputy surgeon-general U. S. A., member of a promotion board at Fort Sheridan, Ill.

Chas. L. Heizman, major and surgeon, U. S. A., member of a promotion board at Fort Sam Houston, Texas.

Henry F. Hoyt, major and surgeon, Vols., sick leave extended.

D. J. Johnson, acting asst.-surgeon, from Fort Strong, Mass., to Fort Slocum, N. Y.

Richard W. Johnson, captain and asst.-surgeon, U. S. A., member of a promotion board at Fort Sheridan, Ill.

DeWitt C. Jones, acting asst.-surgeon, member of a promotion board at St. Paul, Minn.

James M. Kennedy, captain and asst.-surgeon, U. S. A., member of a promotion board at San Francisco, Cal.

Donald P. McCord, acting asst.-surgeon, from Vancouver Barracks, Wash., to duty in the Department of California.

Allen D. McLean, acting asst.-surgeon, from Detroit, Mich., to duty at Fort Wayne, Mich.

Henry Pick, acting asst.-surgeon, to accompany the 47th Inf. Vols., from New York City on the transport *Thomas*, to Manila, P. I., where he will report for duty in the Department of the Pacific.

Charles Richard, major and surgeon, U. S. A., member of a promotion board at Fort Riley, Kan.

George H. Richardson, acting asst. surgeon, from Washington to duty in the Department of California.

Samuel Q. Robinson, major and surgeon, U. S. A., to report for treatment at the General Hospital, Hot Springs, Ark.

Louis P. Smith, lieutenant and asst.-surgeon, U. S. A., from Fort D. A. Russell, Wyo., to duty in the Department of California.

Benjamin L. Ten Eyck, captain and asst.-surgeon, U. S. A., sick leave granted.

Herbert G. Thornburgh, acting asst.-surgeon, from Cleveland, Ohio, to duty in the Department of California.

W. R. Van Tuyl, acting asst.-surgeon, from Leavenworth, Kan, to duty at Fort Leavenworth, Kan.

Odillion B. Weed, acting asst.-surgeon, from Fort Wayne, Mich. to Fort Niagara, N. Y., to accompany the 42d Inf. Vols., to the Philippine Islands.

Charles Wilcox, captain and asst.-surgeon, U. S. A., member of a promotion board at Fort Sam Houston, Texas.

A. D. Williams, acting asst.-surgeon, from Washington, D. C., to Jacksonville, Fla., for annulment of contract.

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**Movements of Navy Medical Officers.**—Changes in the medical corps of the U. S. Navy for the week ending Oct. 27, 1899:

Medical Director M. C. Drennan, promoted to medical director.

Medical Inspector J. C. Wise, ordered to duty as member of the naval examining board, Washington, D. C., November 1.

Surgeon W. A. McClurg, detached from duty as member of the naval examining board, Washington, D. C., November 1, and ordered home and to be ready for orders for sea service.

P. A. Surgeon C. E. Riggs, ordered to the marine recruiting rendezvous, New York, November 1

Medical Director M. C. Drennan, retired October 24; section 1453 Revised Statutes and section 11, Navy personnel law.

Medical Director C. J. Cleborne, detached from duty in charge of the naval hospital, Philadelphia, Pa., November 1, and ordered to Washington, D. C., November 2, for examination for retirement and then home to wait orders.

Medical Inspector R. A. Marmion, ordered to duty in charge of naval hospital, Philadelphia, Pa., November 1.

P. A. Surgeon C. H. T. Lowndes, detached from the *Princeton* and ordered home by the first public conveyance.

Asst.-Surgeon O. M. Eakins, appointed from October 21.

Medical Inspector J. C. Boyd, promoted to medical inspector.

Asst.-Surgeon R. C. Holcomb, detached from duty at the Naval Academy, Annapolis, Md., and ordered to the *Solace*, November 9, for duty in connection with battalion of marines for Manila.

Asst.-Surgeon R. Spear, detached from the *New York* to home and sick leave two months.

Asst.-Surgeon M. V. Stone, detached from the *Brutus* and ordered to the Island of Guam.

**Marine-Hospital Changes.**—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U. S. Marine-Hospital Service, for the seven days ended Oct. 26, 1899.

Surgeon Fairfax Irwin, to report at Washington, D. C., for special temporary duty.

Surgeon C. E. Banks, granted leave of absence for four days.

Surgeon J. J. Kinyoun, to inspect unserviceable property at San Francisco, Cal.

P. A. Surgeon G. M. Guiteras, detailed as temporary Quarantine Officer at Havana, Cuba.

P. A. Surgeon G. B. Young, to proceed to Baltimore, Md., for special temporary duty.

P. A. Surgeon M. J. Rosenau, to rejoin station at Washington, D. C.

P. A. Surgeon E. K. Sprague, detailed to represent service as technical delegate at meeting of American Public Health Association (Laboratory Committee) at Minneapolis, Minn., Oct. 30 to Nov. 3, 1899, inclusive.

Asst.-Surgeon L. E. Cofer, relieved from duty at Mexico, Mexico, to take effect on or about Nov. 15, 1899, and to rejoin station at San Diego, Cal., transferring command thereof to Asst.-Surgeon C. E. Decker, then to proceed to San Pedro, Cal., and assume command of the service.

Asst.-Surgeon John McMullen, to rejoin station at Louisville, Ky.

Asst.-Surgeon M. H. Foster, to inspect unserviceable property at Port Townsend, Washington.

Asst.-Surgeon V. G. Heiser, to proceed to Alexandria and Cairo, Egypt, for special temporary duty.

Acting Asst.-Surgeon E. B. Hallet, granted leave of absence for six days.

Hospital Steward S. W. Richardson, granted leave of absence for ten days from Nov. 14, 1899.

Hospital Steward F. H. Peck, to proceed to Miami, Fla., for special temporary duty.

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**Health Reports.**—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Oct. 27, 1899:

SMALLPOX—UNITED STATES.

Massachusetts: Butler, September 30 to October 18, 2 cases, 1 death; Everett, October 14 to 21, 1 case.
Michigan: Saginaw, October 14 to 21, present in five localities.
Montana: Butte, September 30 to October 18, 2 cases, 1 death.
New York: New York, October 14 to 21, 3 cases.
Ohio: Cleveland, October 14 to 21, 5 deaths
Texas: Galveston, October 20, 1 case.
Virginia: Alexandria, October 20, 1 case; Portsmouth, October 19, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, August 1 to 31, 1 case, 1 death.
Austria: Prague, September 23 to October 7, 5 cases.
Belgium: Antwerp, September 25 to October 16, 4 cases, 4 deaths.
Brazil: Rio de Janeiro, August 11 to 25, 180 cases, 75 deaths.
Greece: Athens, September 30 to October 7, 8 cases, 3 deaths.
India: Bombay, September 19 to 26, 5 deaths; Madras, September 16 to 22, 1 death.
Russia: Moscow, September 23, 1 case, 1 death; Odessa, September 5 to October 7, 7 cases, 2 deaths; St. Petersburg, September 23 to 30, 3 cases, 1 death; Warsaw, September 23 to 30, 5 deaths.

YELLOW FEVER—UNITED STATES.

Florida: Key West, October 16 to 27, 61 cases, 4 deaths; Miami, October 23 to 30, 12 cases.
Louisiana: New Orleans, October 21 to 25, 7 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Argentina: Buenos Ayres, August 1 to 31, 1 case, 1 death.
Brazil: Rio de Janeiro, August 11 to 28, 3 cases, 6 deaths.
Cuba: Havana, October 5 to 17, 15 cases, 9 deaths; Matanzas, October 10, suspected; Santiago, September 23 to 30, 1 death.
Mexico: Tampico, September 22 to 29, 2 cases, 1 death; Tuxpan, October 3 to 16, 15 deaths; Vera Cruz, October 12 to 19, 2 deaths.
Straits Settlements: Singapore, September 2 to 9, 4 deaths.
Teneriffe: Santa Cruz, September 16 to 23, 2 cases, 2 deaths.
Turkey: Erzeroum, September 16 to 23, 5 cases; Smyrna, September 25 to October 1, 1 death.

CHOLERA.

India: Calcutta, September 8 to 16, 2 deaths.

PLAGUE.

China: Hongkong, September 2 to 9, 13 cases, 12 deaths; Yinkon, August 10, reported.
Egypt: Alexandria, September 25 to October 1, 1 case, 1 death.
India: Bombay, September 19 to 26, 62 deaths; Calcutta, September 8 to 16, 46 deaths; Karachi, September 16 to 23, 4 deaths.
Madagascar: Tamatave, September 8 to 16, 2 cases, 2 deaths.

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## CHANGE OF ADDRESS.

Anderson, T. S., from Carabelle to Live Oak, Fla.
Barbat, J. H., from 700 Golden Gate Ave. to 1320 O'Farrell St., San Francisco, Cal.
Buchholz, E. A., from Chicago to Keensburg, Ill.
Chapman, R. N., from 510 Walnut to 221 5th St., DesMoines, Iowa.
Caldwell, F. H., from Waycross, Ga. to Clifton Springs, N. Y.
Campbell, D. P., from Tomichi, Colo. to Greenspring, Ohio.
Cook, J. C., from 47th and Kenwood St. to 5708 Jefferson Ave, Chicago.
Dougherty, P., from Pasadena to 863 Pasadena Ave, Los Angeles, Cal.
Gobrecht, W. H., from 1228 11th to 1509 Corcoran St., Washington, D. C.
Goodwin, W. H., from French Lick Springs, Ind. to Indianola, Ill.
Jones, J. M., from 81 Sip Ave. to Christ Hospt., Jersey City, N. J.
Klebs, A. C., from 600 N. State to 147 Pine St., Chicago.
Morse, A. W., from Joliet to Odell, Ill.
Reynolds, C. W., from Malcolm, Iowa, to Holton, Kan.
Roberts, A. J., from LaGrange to Ottawa, Ill.
Rosan, E. W., from 273 55th St. to 5442 Drexel Ave, Chicago.
Tice, F., from Dunning, Ill. to Omro, Wis.
Welles, F. K., from Nogales, Ariz. to Victor, Col.
Wenzlick, W., from 310 Chicago to 241 Dearborn Ave, Chicago.